# TAPR Spread Spectrum Special Interest Group Archive, January 2001 through May 2003

January 2001 through May 2003

TAPR's technical forum for applying spread-spectrum communications to amateur packet-radio networking, including chipsets and modems, Part 15 wireless LAN hardware, direct-sequence and frequency-hopping systems, CDMA, interference, shared spectrum, and development projects.

This volume contains 27 original monthly files and 1,282 messages, arranged chronologically. The PDF is a readable access copy: MIME transfer encodings are decoded, HTML bodies are converted to plain text, and non-text attachments are represented by descriptive notes. The raw source text is supplied separately with the Internet Archive item.

| Month | Messages | Original source file |
|---|---|---|
| 2001-01 | 6 | ss.0101 |
| 2001-02 | 4 | ss.0102 |
| 2001-03 | 29 | ss.0103 |
| 2001-05 | 32 | ss.0105 |
| 2001-06 | 59 | ss.0106 |
| 2001-07 | 33 | ss.0107 |
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| 2001-09 | 4 | ss.0109 |
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| 2001-11 | 20 | ss.0111 |
| 2001-12 | 16 | ss.0112 |
| 2002-01 | 27 | ss.0201 |
| 2002-02 | 4 | ss.0202 |
| 2002-03 | 11 | ss.0203 |
| 2002-04 | 23 | ss.0204 |
| 2002-05 | 10 | ss.0205 |
| 2002-06 | 4 | ss.0206 |
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| 2002-12 | 248 | ss.0212 |
| 2003-01 | 148 | ss.0301 |
| 2003-03 | 19 | ss.0303 |
| 2003-04 | 10 | ss.0304 |
| 2003-05 | 12 | ss.0305 |

# January 2001

Original source file: ss.0101
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/ss.0101

## 1. [ss] Fw: urgent virus warning act now

From: "M.A.Pinfold" <Pinfold@xtra.co.nz>
Date: Wed, 17 Jan 2001 13:47:00 +1300
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-129793-2001.01.16-18.57.38--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

----- Original Message -----
From: Carlos
To: sales@edgewel.co.nz
Sent: Wednesday, January 17, 2001 12:41 PM
Subject: FW: urgent virus warning act now

-----Original Message-----
From: Shayne Rumbal [mailto:shayne2@i4free.co.nz]
Sent: Wednesday, 17 January 2001 12:32
To: Undisclosed.Recipients@mail.world-net.co.nz
Subject: urgent virus warning act now

Subject: FW: Virus Warning

> DO NOT OPEN "PRETTY PARK" It is a virus that will
> erase your whole "C" drive. It will come to you in the form of an
> E-mail from a familiar person.
>
> I repeat a friend sent it to me, but called & warned
> me before I opened it. He was not so lucky and
> now he can't even start his computer!  Forward this to
> everyone in your address book. I would rather receive this 25 times
> than not at all.
>
> Also: Intel announced that a new and very destructive virus was
> discovered recently. If you receive an email called "An Internet Flower
> For  You," do not open it. Delete it right away!
> This virus removes all dynamic link libraries (.DLL files) from your
> computer.  Your computer will not be able to boot up.
> shayne2@i4free.co.nz

## 2. [ss] RE: Fw: urgent virus warning act now

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Wed, 17 Jan 2001 16:31:35 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-129826-2001.01.16-23.45.33--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

While Pretty Park is a known virus (actually, Trojan), please don't
encourage people to pass on virus warnings, that's how hoaxes get around.
Instead, advise them to subscribe to one of the mailing lists run by the
antivirus software companies, for the latest information.

Tony Langdon.
Systems Development and Support.
ATC Training Australasia.  Level 2 321 Exhibition St Melbourne  3000.
Phone:  1300 13 1983     WWW:  http://www.atctraining.com.au
<http://www.atctraining.com.au/>
-----Original Message-----
From: M.A.Pinfold [mailto:Pinfold@xtra.co.nz]
Sent: Wednesday, 17 January 2001 11:47
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] Fw: urgent virus warning act now

----- Original Message -----

From: Carlos <mailto:sales@edgewel.co.nz>
To: sales@edgewel.co.nz <mailto:sales@edgewel.co.nz>
Sent: Wednesday, January 17, 2001 12:41 PM
Subject: FW: urgent virus warning act now

-----Original Message-----
From: Shayne Rumbal [ mailto:shayne2@i4free.co.nz
<mailto:shayne2@i4free.co.nz> ]
Sent: Wednesday, 17 January 2001 12:32
To: Undisclosed.Recipients@mail.world-net.co.nz
<mailto:Undisclosed.Recipients@mail.world-net.co.nz>
Subject: urgent virus warning act now

Subject: FW: Virus Warning
> DO NOT OPEN "PRETTY PARK" It is a virus that will
> erase your whole "C" drive. It will come to you in the form of an
> E-mail from a familiar person.
>
> I repeat a friend sent it to me, but called & warned
> me before I opened it. He was not so lucky and
> now he can't even start his computer!   Forward this to
> everyone in your address book. I would rather receive this 25 times
> than not at all.
>
> Also: Intel announced that a new and very destructive virus was
> discovered recently. If you receive an email called "An Internet Flower
> For  You," do not open it. Delete it right away!
> This virus removes all dynamic link libraries (.DLL files) from your
> computer.  Your computer will not be able to boot up.
> shayne2@i4free.co.nz <mailto:shayne2@i4free.co.nz>

## 3. [ss] Re: Fw: urgent virus warning act now

From: Brett Glass <brett@lariat.org>
Date: Tue, 16 Jan 2001 23:08:26 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-129840-2001.01.17-00.21.47--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Actually, the latest virus appears to come in a message with the
subject

"urgent virus warning act now"

;-)

--Brett

At 05:47 PM 1/16/2001, M.A.Pinfold wrote:

>"urn:schemas-microsoft-com:vml" xmlns:o = "urn:schemas-microsoft-com:office:office" xmlns:w =
"urn:schemas-microsoft-com:office:word">
>
>----- Original Message -----
>From: <mailto:sales@edgewel.co.nz>Carlos
>To: <mailto:sales@edgewel.co.nz>sales@edgewel.co.nz
>Sent: Wednesday, January 17, 2001 12:41 PM
>Subject: FW: urgent virus warning act now
>
>
>
>
>
>-----Original Message-----
>From: Shayne Rumbal [<mailto:shayne2@i4free.co.nz>mailto:shayne2@i4free.co.nz]
>Sent: Wednesday, 17 January 2001 12:32
>To: <mailto:Undisclosed.Recipients@mail.world-net.co.nz>Undisclosed.Recipients@mail.world-net.co.nz
>Subject: urgent virus warning act now
>
>
>
>
>
>Subject: FW: Virus Warning
>
>> DO NOT OPEN "PRETTY PARK" It is a virus that will
>> erase your whole "C" drive. It will come to you in the form of an

>> E-mail from a familiar person.
>>
>> I repeat a friend sent it to me, but called & warned
>> me before I opened it. He was not so lucky and
>> now he can't even start his computer!   Forward this to
>> everyone in your address book. I would rather receive this 25 times
>> than not at all.
>>
>> Also: Intel announced that a new and very destructive virus was
>> discovered recently. If you receive an email called "An Internet Flower
>> For  You," do not open it. Delete it right away!
>> This virus removes all dynamic link libraries (.DLL files) from your
>> computer.  Your computer will not be able to boot up.
>> <mailto:shayne2@i4free.co.nz>shayne2@i4free.co.nz


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 4. [ss] Re: ss digest: January 17, 2001

From: Jim Ussailis <ussailis@equinox.shaysnet.com>
Date: Thu, 18 Jan 2001 22:40:42 -0500 (EST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: ss digest recipients <ss@lists.tapr.org>
Message-ID: <LYR6751-130191-2001.01.18-21.54.37--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

What does the virus attack? Rather, what is its vector...how does it get in?

Since I do not use Microsoft products to read email, am I at risk?

Jim Ussailis, W1EQO

ussailis@shaysnet.com



On Thu, 18 Jan 2001, TAPR Spread Spectrum Special Interest Group digest wrote:

> TAPR Spread Spectrum Special Interest Group Digest for Wednesday, January 17, 2001.
>
> 1. Re: Fw: urgent virus warning act now
>
> ----------------------------------------------------------------------
>
> Subject: Re: Fw: urgent virus warning act now
> From: Brett Glass <brett@lariat.org>
> Date: Tue, 16 Jan 2001 23:08:26 -0700
> X-Message-Number: 1
>
> Actually, the latest virus appears to come in a message with the
> subject
>
> "urgent virus warning act now"
>
> ;-)
>
> --Brett
>
> At 05:47 PM 1/16/2001, M.A.Pinfold wrote:
>
> >"urn:schemas-microsoft-com:vml" xmlns:o = "urn:schemas-microsoft-com:office:office" xmlns:w =
"urn:schemas-microsoft-com:office:word">
> >
> >----- Original Message -----
> >From: <mailto:sales@edgewel.co.nz>Carlos
> >To: <mailto:sales@edgewel.co.nz>sales@edgewel.co.nz
> >Sent: Wednesday, January 17, 2001 12:41 PM
> >Subject: FW: urgent virus warning act now
> >
> >
> >
> >
> >
> >-----Original Message-----
> >From: Shayne Rumbal [<mailto:shayne2@i4free.co.nz>mailto:shayne2@i4free.co.nz]
> >Sent: Wednesday, 17 January 2001 12:32
> >To: <mailto:Undisclosed.Recipients@mail.world-net.co.nz>Undisclosed.Recipients@mail.world-net.co.nz

> >Subject: urgent virus warning act now
> >
> >
> >
> >
> >
> >Subject: FW: Virus Warning
> >
> >> DO NOT OPEN "PRETTY PARK" It is a virus that will
> >> erase your whole "C" drive. It will come to you in the form of an
> >> E-mail from a familiar person.
> >>
> >> I repeat a friend sent it to me, but called & warned
> >> me before I opened it. He was not so lucky and
> >> now he can't even start his computer!   Forward this to
> >> everyone in your address book. I would rather receive this 25 times
> >> than not at all.
> >>
> >> Also: Intel announced that a new and very destructive virus was
> >> discovered recently. If you receive an email called "An Internet Flower
> >> For  You," do not open it. Delete it right away!
> >> This virus removes all dynamic link libraries (.DLL files) from your
> >> computer.  Your computer will not be able to boot up.
> >> <mailto:shayne2@i4free.co.nz>shayne2@i4free.co.nz
>
>
>
>
> ---
>
> END OF DIGEST
>
> ---
> You are currently subscribed to ss as: ussailis@shaysnet.com
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 5. [ss] Olde Antenna Labs?

From: Jeff King <jeff@aerodata.net>
Date: Thu, 25 Jan 2001 18:15:21 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-131230-2001.01.25-17.30.21--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Anyone know if Olde Antenna Labs is still around? His e-mail
account is closed.

-Jeff wb8wka

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 6. [ss] Re: ss digest: January 17, 2001

From: Brett Glass <brett@lariat.org>
Date: Sat, 27 Jan 2001 15:29:23 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: ss digest recipients <ss@lists.tapr.org>
Message-ID: <LYR6751-131506-2001.01.27-16.43.14--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The virus attacks electronic mail systems by exploiting human brains,
especially those with high levels of gullibility. The brains are
stimulated to enter commands into their computer systems, which then
further spread the virus at the expense of the victim's reputation.

The use of a Microsoft product is not required for the propagation
of the virus. However, it is sometimes a sign of the gullibility
which the virus exploits. ;-)

--Brett Glass

At 08:40 PM 1/18/2001, Jim Ussailis wrote:

>What does the virus attack? Rather, what is its vector...how does it get in?
>
>Since I do not use Microsoft products to read email, am I at risk?
>
>Jim Ussailis, W1EQO
>
>ussailis@shaysnet.com
>
>
>
>On Thu, 18 Jan 2001, TAPR Spread Spectrum Special Interest Group digest wrote:
>
>> TAPR Spread Spectrum Special Interest Group Digest for Wednesday, January 17, 2001.
>>
>> 1. Re: Fw: urgent virus warning act now
>>
>> ----------------------------------------------------------------------
>>
>> Subject: Re: Fw: urgent virus warning act now
>> From: Brett Glass <brett@lariat.org>
>> Date: Tue, 16 Jan 2001 23:08:26 -0700
>> X-Message-Number: 1
>>
>> Actually, the latest virus appears to come in a message with the
>> subject
>>
>> "urgent virus warning act now"
>>
>> ;-)
>>
>> --Brett
>>
>> At 05:47 PM 1/16/2001, M.A.Pinfold wrote:
>>
>> >"urn:schemas-microsoft-com:vml" xmlns:o = "urn:schemas-microsoft-com:office:office" xmlns:w =
"urn:schemas-microsoft-com:office:word">
>> >
>> >----- Original Message -----
>> >From: <mailto:sales@edgewel.co.nz>Carlos
>> >To: <mailto:sales@edgewel.co.nz>sales@edgewel.co.nz
>> >Sent: Wednesday, January 17, 2001 12:41 PM
>> >Subject: FW: urgent virus warning act now
>> >
>> >
>> >
>> >
>> >
>> >-----Original Message-----
>> >From: Shayne Rumbal [<mailto:shayne2@i4free.co.nz>mailto:shayne2@i4free.co.nz]
>> >Sent: Wednesday, 17 January 2001 12:32
>> >To: <mailto:Undisclosed.Recipients@mail.world-net.co.nz>Undisclosed.Recipients@mail.world-net.co.nz
>> >Subject: urgent virus warning act now
>> >
>> >
>> >
>> >
>> >
>> >Subject: FW: Virus Warning
>> >
>> >> DO NOT OPEN "PRETTY PARK" It is a virus that will
>> >> erase your whole "C" drive. It will come to you in the form of an
>> >> E-mail from a familiar person.
>> >>
>> >> I repeat a friend sent it to me, but called & warned
>> >> me before I opened it. He was not so lucky and
>> >> now he can't even start his computer!   Forward this to
>> >> everyone in your address book. I would rather receive this 25 times
>> >> than not at all.
>> >>
>> >> Also: Intel announced that a new and very destructive virus was
>> >> discovered recently. If you receive an email called "An Internet Flower
>> >> For  You," do not open it. Delete it right away!
>> >> This virus removes all dynamic link libraries (.DLL files) from your
>> >> computer.  Your computer will not be able to boot up.
>> >> <mailto:shayne2@i4free.co.nz>shayne2@i4free.co.nz
>>
>>
>>
>>

>> ---
>>
>> END OF DIGEST
>>
>> ---
>> You are currently subscribed to ss as: ussailis@shaysnet.com
>> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>>
>>
>
>---
>You are currently subscribed to ss as: BRETT@LARIAT.ORG
>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

# February 2001

Original source file: ss.0102
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/ss.0102

## 1. [ss] rs on uC

From: Also-Antal Csaba <antalcs@mail.matav.hu>
Date: Sat, 10 Feb 2001 08:22:26 +0100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-134280-2001.02.10-01.36.52--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,
I build a low speed(400 kbps) data transmit device. I want to use rs
coding for ensure the data transmission without failure. I would like to
do this rs coding with an uC. Has anybody seen a programme source for
any type of uC?

udv
Csaba

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 2. [ss] Re: rs on uC

From: Jim Sanford <wb4gcs@amsat.org>
Date: Sat, 10 Feb 2001 07:49:13 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-134288-2001.02.10-07.03.28--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Phil Karn has C and C++ code on his web site.

Just search on KA9Q.

Good luck and hope you share your results.

73,
Jim
wb4gcs@amsat.org


Also-Antal Csaba wrote:

> Hi,
> I build a low speed(400 kbps) data transmit device. I want to use rs
> coding for ensure the data transmission without failure. I would like to
> do this rs coding with an uC. Has anybody seen a programme source for
> any type of uC?
>
> udv
> Csaba
>
> ---
> You are currently subscribed to ss as: WB4GCS@AMSAT.ORG
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 3. [ss] DTMF Soundcard decoding

From: "Hamoperator SM7UGT Marcel bos" <sm1ugt@hotmail.com>
Date: Sat, 10 Feb 2001 15:23:56
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-134291-2001.02.10-09.38.14--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I was pooking around the net Iand I wounder if someone would like to
implement a DLL in directx with the info posted here. All formulas are
included so It would not be a problem perhaps a coffie-break-job.

_____

Get Your Private, Free E-mail from MSN Hotmail at http://www.hotmail.com.
[Attachment: dtmfdetection.pdf; application/pdf; 104,448 bytes]

## 4. [ss] Harmonic Balance Simulations??

From: GoodmanDL@aol.com
Date: Tue, 27 Feb 2001 15:00:02 EST
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-137781-2001.02.27-14.15.26--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,

I have a prototype Harmonic Balance simulator having a VHDL-AMS variant
modeling language that I am experimenting with.

I currently have a Gilbert Cell mixer running with it, and would be
interested in talking to someone about this in Tucson and kicking around some
ideas.

If you have the interest in this area, pls give me a call or email.

Thanks,

Doug Goodman
(520) 907-1042 or
GoodmanDL@aol.com

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

# March 2001

Original source file: ss.0103
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/ss.0103

## 1. [ss] RE: Harmonic Balance Simulations??

From: Jakob Hershko <JakobH@FoxcomWireless.com>
Date: Thu, 1 Mar 2001 15:38:58 +0200
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-138040-2001.03.01-07.55.16--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

hi
I will happy to hear and see  more  information .

Jacob Hershko
R & D RF Engineer.
TEL:    972-8-9183836
FAX     972-8-9183844
E-Mail: jakobh@foxcomwireless.com
Web Site: http://www.foxcomwireless.com

-----Original Message-----
From: GoodmanDL@aol.com [mailto:GoodmanDL@aol.com]
Sent: Tuesday, February 27, 2001 12:00 PM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] Harmonic Balance Simulations??

Hi,

I have a prototype Harmonic Balance simulator having a VHDL-AMS variant
modeling language that I am experimenting with.

I currently have a Gilbert Cell mixer running with it, and would be
interested in talking to someone about this in Tucson and kicking around
some
ideas.

If you have the interest in this area, pls give me a call or email.

Thanks,

Doug Goodman
(520) 907-1042 or
GoodmanDL@aol.com

---
You are currently subscribed to ss as: jakobh@foxcomwireless.com
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 2. [ss] SS project page updated

From: Jeff King <jeff@aerodata.net>
Date: Sat, 03 Mar 2001 19:04:38 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-138639-2001.03.03-18.20.26--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The TAPR FHSS project web page has been updated
recently:

http://www.tapr.org/tapr/html/Ftaprfhss.html

a more detailed report can also be found in the TPRS
quarterly report for Feb. See:

http://www.tapr.org/tprs/publications/qr_arch/Feb01.pdf

-Jeff

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 3. [ss] Re: SS project page updated

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Sun, 04 Mar 2001 20:08:54 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-138826-2001.03.04-20.19.17--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I was trying to find particulars about the 900 MHz FHSS project and
eventually found "An Amateur 900 MHz Spread Spectrum Radio Design" at:
http://tprs.org/publications/qr_arch/Aug97.PDF

I assume this what TAPR has been working at since 1997?  With the end
result being a; 1 watt, 128 Kbps, 900 MHz FHSS device running some sort
of embeded Linux?

I guess I'm not overly impressed yet.  Is there a projected time of
completion yet or projected cost?

Steve Lampereur, KB9MWR

Using Part 15 Wireless Ethernet Cards for Amateur Radio:
http://www.qsl.net/kb9mwr/projects/wireless/plan.html

---
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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 4. [ss] Re: SS project page updated

From: Brett Glass <brett@lariat.org>
Date: Mon, 05 Mar 2001 09:14:47 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-138915-2001.03.05-10.30.18--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Our local non-profit community network has just started
a new wireless project and is looking for some new,
inexpensive Part 15 SS radio equipment for the unlicensed
bands.

We might be in using this radio if it is an open,
non-proprietary project, but we understand that it
is now licensed exclusively to some company called the
"Dandin Group" and so in effect is a commercial project
that benefits only this one company. Correct?

--Brett

At 05:04 PM 3/3/2001, Jeff King wrote:

>The TAPR FHSS project web page has been updated
>recently:
>
>http://www.tapr.org/tapr/html/Ftaprfhss.html
>
>a more detailed report can also be found in the TPRS
>quarterly report for Feb. See:
>
>http://www.tapr.org/tprs/publications/qr_arch/Feb01.pdf
>
>-Jeff
>
>---
>You are currently subscribed to ss as: BRETT@LARIAT.ORG
>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 5. [ss] Re: SS project page updated

From: "Bret A. Boggs" <bboggs@ameritech.net>
Date: Mon, 5 Mar 2001 20:57:49 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-139009-2001.03.05-20.14.08--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Brett,

That would be an interesting approach to your wireless network.  But, I have not seen any thing that indicates that the TAPR FHSS radio was designed to meet the requirements of Part 15.  Although hams are permitted to use Part 15 SS equipment, I am sure you know that amateur equipment can not be used Part 15 SS applications.

If you do a little more research I think you will find that there are low cost Part 15 900MHz ISM radios that will support serial network access (PPP or SLIP).  Additionally, you will find there are low cost Part 15 2.4GHz ISM radios that will support 10Base-T.

The other Bret

-----Original Message-----
From: bounce-ss-22295@lists.tapr.org
[mailto:bounce-ss-22295@lists.tapr.org]On Behalf Of Brett Glass
Sent: Monday, March 05, 2001 11:15 AM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] Re: SS project page updated


Our local non-profit community network has just started
a new wireless project and is looking for some new,
inexpensive Part 15 SS radio equipment for the unlicensed
bands.

We might be in using this radio if it is an open,
non-proprietary project, but we understand that it
is now licensed exclusively to some company called the
"Dandin Group" and so in effect is a commercial project
that benefits only this one company. Correct?

--Brett

At 05:04 PM 3/3/2001, Jeff King wrote:

>The TAPR FHSS project web page has been updated
>recently:
>
>http://www.tapr.org/tapr/html/Ftaprfhss.html
>
>a more detailed report can also be found in the TPRS
>quarterly report for Feb. See:
>
>http://www.tapr.org/tprs/publications/qr_arch/Feb01.pdf
>
>-Jeff
>
>---
>You are currently subscribed to ss as: BRETT@LARIAT.ORG
>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org


---
You are currently subscribed to ss as: bboggs@ameritech.net
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 6. [ss] EMAIL VIRUS ***Matthew Is Walking Sort Of!***

From: Chris Brandt <cbbrandt@gci.net>
Date: Thu, 08 Mar 2001 09:21:42 -0900
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-139471-2001.03.08-12.35.18--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Do not open any email with the subject line : MATTHEW IS WALKING SORT OF! This is now a virus email. If you have it here is how to get rid of it.

Email from these people is infected:
Nathan Elliot or Mark Huelskoetter or Travis D Williams

If you received any email from me today with an attachment - DO NOT OPEN

THEM!!!  DELETE THEM WITHOUT READING OR OPENING THEM!!

The attachment would most likely be called EMANUEL.EXE or NAVIDAD.EXE

If you opened one of these files from me, or anyone else, go to:

http://vil.mcafee.com/dispVirus.asp?virus_k=98881&

If that link doesn't work right, just go to Mcaffe.com and search for
EMANUEL.

I apologize if any of you were affected by this virus.

## 7. [ss] RE: EMAIL VIRUS ***Matthew Is Walking Sort Of!***

From: Eric Knapp <EKnapp@gci.com>
Date: Thu, 8 Mar 2001 09:23:55 -0900
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-139475-2001.03.08-12.40.05--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Our mail servers are protected against this one.

-----Original Message-----
From: Chris Brandt [mailto:cbbrandt@gci.net]
Sent: Thursday, March 08, 2001 9:22 AM
To: Wilson; Trent; Travis Williams; Steve; ss@tapr.org; Simmons; Shawn
Williams; Samantha L Wallace; Ryan Brandt; Rita Grimes; Pickerel_Jeri; Nora
Herring; Nathan Elliott; Nathan Elliott; Nathan Elliot; Mom, Dad and Sis
Brandt's; Mike McKenzie; Mike collins; Mary Froiland; Mark Lewis; Mark
Huelskoetter; Marianne Brandt; Margo Gauthier; Margo; Lorita Lawler; Lorita
Lawler; Lindy; Lewis, Mark S.; Lawler; Ken and Bianca Ferris; Ken & Bianca
Ferris; Kali Account Support; Justin Dunlap; JohnT38238; Jennifer Laird;
Jason Huelskoetter; HelpDesk; Harley & Arlene Steward; Georgie; GCI Support;
Frank; Eric Logue; drose@menv.com; Doug Schroeder; Doug Pickerel; David W.
Hanson; Dave Walker; Dave Smith; Dave; Dale Rose Rose; Dale & Helga
Huelskoetter; Conway, Duffy; CJ's Phone; Christian M Jones; Chris Brynt;
Chris Biagi; Cheryl Sarver; Catherine Thompson; Brian Broderick;
BrettWheeler@GCI.NET; Brett Wheeler; Brandt_Cathy; Brad Wilson; Brad
Simmons; bonnie solem; Bill Stringham; Bill Stringham; Beth Lammon; Allison
Brandt; Alex Armstrong; Aaron Gauthier
Subject: EMAIL VIRUS ***Matthew Is Walking Sort Of!***

Do not open any email with the subject line : MATTHEW IS WALKING SORT OF!
This is now a virus email. If you have it here is how to get rid of it.
Email from these people is infected:
Nathan Elliot or Mark Huelskoetter or Travis D Williams
If you received any email from me today with an attachment - DO NOT OPEN
THEM!!!  DELETE THEM WITHOUT READING OR OPENING THEM!!

The attachment would most likely be called EMANUEL.EXE or NAVIDAD.EXE

If you opened one of these files from me, or anyone else, go to:

http://vil.mcafee.com/dispVirus.asp?virus_k=98881
<http://vil.mcafee.com/dispVirus.asp?virus_k=98881&amp> &

If that link doesn't work right, just go to Mcaffe.com and search for
EMANUEL.

I apologize if any of you were affected by this virus.

## 8. [ss] Hello?

From: "Bert Herald" <wf7i@hotmail.com>
Date: Fri, 16 Mar 2001 10:33:48 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-909-2001.03.16-11.49.31--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi mailing list.  Is anyone monitoring this list?  I thought I subscribed
but I've been on for a week and haven't seen any posts.  I'm WF7I out of
Tucson, AZ.  Looking to work on some new exciting modes/projects.  I've got
access to an HP spectrum analyzer and an old IFR instrument of some type,
among other things.  Just need to roll them into service on something.

Radio wise, I've got a triband yagi on HF on a crankup tower, along with a 5
element dual band yagi for 2m/440.  I've got all modes on all bands with the
new Kenwood TS2000, and two backup rigs (a Yeasu FT840 and Knwd 530S).  I've
got a 3el yagi on 6m too.  There's three TNCs -- one built into the 2000 for
1200/9600 but no connections allowed, then a Kantronics multimode, and a

small 1200 baud TNC.

I'd like to try new modes on the air with other hams -- PSK31, high speed data, satellite, whatever -- just send me an email.  My direct email is wf7i@hotmail.com

73s from the old pueblo,
Bert

_____
Get your FREE download of MSN Explorer at http://explorer.msn.com

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 9. [ss] Re: Hello?

From: Brett Glass <brett@lariat.org>
Date: Fri, 16 Mar 2001 10:49:00 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-916-2001.03.16-12.04.54--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 10:33 AM 3/16/2001, Bert Herald wrote:

>Hi mailing list.  Is anyone monitoring this list?

Er, shouldn't that be "CQ?" ;-)

--Brett

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 10. [ss] Re: Hello?

From: Kerry Banke <kbanke@qualcomm.com>
Date: Fri, 16 Mar 2001 09:58:00 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-920-2001.03.16-12.13.48--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Bert - Good to see someone on the reflector.  I host the San Diego Microwave Group which meets monthly at my home in La Mesa.  We are primarily active on 1296 and above but do have some members with HF and UHF cpabilities.  We have played across town with most of teh digital modes on 1296 MHz including PSK31 and MFSK.  We have also made some full duplex voice contacts using laser pointers (last Field day we did a demo over 12 miles for fun).

This year we'll probably try some other laser pointer demos during Field Day which might be ATV or digital modes.

We have lot's of microwave hardware available for those willing build and modify.

 - Kerry N6IZW -

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 11. [ss] Poor man's PSK31 transceiver

From: Bato@tapr.org, Andras <bato44@matavnet.hu>
Date: Fri, 16 Mar 2001 19:12:24 +0100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-934-2001.03.16-14.17.37--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi everyone,

People are generally not able to buy a factory built transceiver down here (because of financial resons). :(

That's why homebrew sites seem to be more and more popular. Although Internet is a surprisingly good database for home constructurs, I have been searching for a transceiver which could be used for PSK31 activity -say on the 20 meters

band- in vain.

I would be glad to find a site describing a ham radio box built for that kind
of activity using components widely known and available all over the world.

I wonder if someone could possibly recommend a site or two. (Unfortunately
ARRL's site is full of "Members only" notes...

73
Andras
HA6NN
--
Dixi et salvavi animam meam.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 12. [ss] Re: Poor man's PSK31 transceiver

From: "Eric S. Johansson" <esj@harvee.billerica.ma.us>
Date: Fri, 16 Mar 2001 15:08:48 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-935-2001.03.16-14.24.38--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 07:12 PM 3/16/2001 +0100, you wrote:
>Hi everyone,
>
>People are generally not able to buy a factory built transceiver down here
>(because of financial resons). :(
>
>That's why homebrew sites seem to be more and more popular. Although Internet
>is a surprisingly good database for home constructurs, I have been searching
>for a transceiver which could be used for PSK31 activity -say on the 20 meters
>band- in vain.
>
>I would be glad to find a site describing a ham radio box built for that kind
>of activity using components widely known and available all over the world.
>
>I wonder if someone could possibly recommend a site or two. (Unfortunately
>ARRL's site is full of "Members only" notes...


check out http://www.smallwonderlabs.com/  dave benson is a great guy to
deal with and makes great radios.

I bought a couple of his radios a few years ago and was very impressed.
--- eric


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 13. [ss] Re: Poor man's PSK31 transceiver

From: Major107AC@aol.com
Date: Sat, 17 Mar 2001 12:48:44 EST
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-1057-2001.03.17-12.04.40--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I'd like to second Eric's comments about Small Wonder Labs PSK31 transceiver
... a GREAT kit, VERY well documented, and VERY well supported by Dave Benson
... I would highly recommend it to anyone wanting to build their own QRP
PSK31 rig.

For the 80 meter enthusiiasts there's also the Wrabler though I don't know
what the URL is for that product.

de Rick, K8CAV

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 14. [ss] Re: Poor man's PSK31 transceiver

From: Bato@tapr.org, Andras <bato44@matavnet.hu>
Date: Sun, 18 Mar 2001 09:30:10 +0100

To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-1135-2001.03.18-04.03.12--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi all,

On Sat, 17 Mar 2001, K8CAV wrote:
> I'd like to second Eric's comments about Small Wonder Labs PSK31 transceiver

Thanks are due to Eric S. Johansson and Rick K8CAV for replying and for their advice.

I have visited that site. Good sulution indeed, but I have to take into account the probably higyh cost of delivery to another continent, not to mention costums fee -and the sad fact that with an engineering plus a pedagogical degree, as a teacher I earn about 300 dollars net payment a month... :)

That's life in the better half of Eastern Europe -but I don't want to go off topic...

I keep searching the Internet.

73 and gl fm ha6nn
--
Dixi et salvavi animam meam.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 15. [ss] RE: Poor man's PSK31 transceiver

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Mon, 19 Mar 2001 08:48:09 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-1249-2001.03.18-16.03.34--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> People are generally not able to buy a factory built
> transceiver down here
> (because of financial resons). :(

True, though the secondhand market can be good in some parts of the world. That is another good option to look into.

> That's why homebrew sites seem to be more and more popular.
> Although Internet
> is a surprisingly good database for home constructurs, I have
> been searching
> for a transceiver which could be used for PSK31 activity -say
> on the 20 meters
> band- in vain.

Well, you basically need a reasonable 20m SSB transceiver.  It would be worth looking around QRP sites, there should be some designs out there, or ask your local homebrewers.

QRP is relatively cheap and also quite suitable for PSK-31, but if more power is needed, you can add an external linear amplifier (which I'd definitely consider home brewing if money is tight).

> I would be glad to find a site describing a ham radio box
> built for that kind
> of activity using components widely known and available all
> over the world.

I don't have anything immediately to hand, but I do know an active homebrewer who may be able to offer a design or two for a 20m SSB rig, he has built a fair bit of gear, more out of interest than financial need.  I tend to home brew where the commercially built or secondhand options are not available (e.g. microwave, ATV) or construction time is relatively short (antennas, accessories), due to limited time.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 16. [ss] Re: ss digest: March 18, 2001

From: Jim Ussailis <ussailis@equinox.shaysnet.com>
Date: Mon, 19 Mar 2001 11:30:56 -0500 (EST)

To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: ss digest recipients <ss@lists.tapr.org>
Message-ID: <LYR6751-1398-2001.03.19-10.45.17--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Help...

I have been looking for a "simple" solution to demodulate a direct
sequence, spread-spectrum signal. There is plenty of literature
describing a Costas loop, squaring loop, etc. But nothing with an actual
working circuit.

My IF is at 62.5 MHz, but I could easily change that.

Once I have demodulated the signal, I have no problem locking to the code.

Thanks,

Jim Ussailis  W1EQO

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 17. [ss] Re: ss digest: March 18, 2001

From: "M.A.Pinfold" <xtr98002001@tapr.org>
Date: Tue, 20 Mar 2001 06:42:24 +1200
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-1419-2001.03.19-13.00.56--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Jim, have a look at James Vincent G1pvz  "Voice link over spread spectrum
radio"  in the english magazine  Electronics world +Wireless world  oct 1993
pgs 862 onwards if you cant find it locally I couls send you a copy  regards
Mike ZL1BTB
----- Original Message -----
From: "Jim Ussailis" <ussailis@equinox.shaysnet.com>
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: "ss digest recipients" <ss@lists.tapr.org>
Sent: Tuesday, March 20, 2001 4:30 AM
Subject: [ss] Re: ss digest: March 18, 2001


> Help...
>
> I have been looking for a "simple" solution to demodulate a direct
> sequence, spread-spectrum signal. There is plenty of literature
> describing a Costas loop, squaring loop, etc. But nothing with an actual
> working circuit.
>
> My IF is at 62.5 MHz, but I could easily change that.
>
> Once I have demodulated the signal, I have no problem locking to the code.
>
> Thanks,
>
> Jim Ussailis  W1EQO
>
> ---
> You are currently subscribed to ss as: PINFOLD@XTRA.CO.NZ
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 18. [ss] Re: ss digest: March 19, 2001

From: Jim Ussailis <ussailis@equinox.shaysnet.com>
Date: Tue, 20 Mar 2001 17:43:56 -0500 (EST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: ss digest recipients <ss@lists.tapr.org>
Message-ID: <LYR6751-1732-2001.03.20-16.58.18--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thanks, I will try to find a copy. I receive that mag, but not that far back.

If I can't find it, I'll take you up on your offer.

Again, thanks,

Jim Ussailis

On Tue, 20 Mar 2001, TAPR Spread Spectrum Special Interest Group digest wrote:

> TAPR Spread Spectrum Special Interest Group Digest for Monday, March 19, 2001.
>
> 1. Re: ss digest: March 18, 2001
> 2. Re: ss digest: March 18, 2001
>
> ---
>
> Subject: Re: ss digest: March 18, 2001
> From: Jim Ussailis <ussailis@equinox.shaysnet.com>
> Date: Mon, 19 Mar 2001 11:30:56 -0500 (EST)
> X-Message-Number: 1
>
> Help...
>
> I have been looking for a "simple" solution to demodulate a direct
> sequence, spread-spectrum signal. There is plenty of literature
> describing a Costas loop, squaring loop, etc. But nothing with an actual
> working circuit.
>
> My IF is at 62.5 MHz, but I could easily change that.
>
> Once I have demodulated the signal, I have no problem locking to the code.
>
> Thanks,
>
> Jim Ussailis  W1EQO
>
> ---
>
> Subject: Re: ss digest: March 18, 2001
> From: "M.A.Pinfold" <xtr98002001>
> Date: Tue, 20 Mar 2001 06:42:24 +1200
> X-Message-Number: 2
>
> Hi Jim, have a look at James Vincent G1pvz  "Voice link over spread spectrum
> radio"  in the english magazine  Electronics world +Wireless world  oct 1993
> pgs 862 onwards if you cant find it locally I couls send you a copy  regards
> Mike ZL1BTB
> ----- Original Message -----
> From: "Jim Ussailis" <ussailis@equinox.shaysnet.com>
> To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
> Cc: "ss digest recipients" <ss@lists.tapr.org>
> Sent: Tuesday, March 20, 2001 4:30 AM
> Subject: [ss] Re: ss digest: March 18, 2001
>
>
> > Help...
> >
> > I have been looking for a "simple" solution to demodulate a direct
> > sequence, spread-spectrum signal. There is plenty of literature
> > describing a Costas loop, squaring loop, etc. But nothing with an actual
> > working circuit.
> >
> > My IF is at 62.5 MHz, but I could easily change that.
> >
> > Once I have demodulated the signal, I have no problem locking to the code.
> >
> > Thanks,
> >
> > Jim Ussailis  W1EQO
> >
> > ---
> > You are currently subscribed to ss as: PINFOLD@XTRA.CO.NZ
> > To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
> >
> >
>
>
>
>
> ---

> 
> END OF DIGEST
> 
> ---
> You are currently subscribed to ss as: ussailis@shaysnet.com
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
> 
> 

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 19. [ss] Re: ss digest: March 19, 2001

From: "Steven R. Bible" <srbible@gate.net>
Date: Tue, 20 Mar 2001 19:26:35 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-1764-2001.03.20-20.42.35--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Jim,

The article is online the TAPR web server.  Take a look at

    http://www.tapr.org/tapr/html/g1pvz/g1pvzf.html

The article is also reprinted in TAPR's Spread Spectrum Update book.  The
URL is

    http://www.tapr.org/tapr/html/Fpub.ss.html

73,

 - Steve, N7HPR
   n7hpr@tapr.org


> -----Original Message-----
> From: bounce-ss-5189@lists.tapr.org
> [mailto:bounce-ss-5189@lists.tapr.org]On Behalf Of Jim Ussailis
> Sent: Tuesday, March 20, 2001 3:44 PM
> To: TAPR Spread Spectrum Special Interest Group
> Cc: ss digest recipients
> Subject: [ss] Re: ss digest: March 19, 2001
> 
> 
> Thanks, I will try to find a copy. I receive that mag, but not
> that far back.
> 
> If I can't find it, I'll take you up on your offer.
> 
> Again, thanks,
> 
> Jim Ussailis
> 
> On Tue, 20 Mar 2001, TAPR Spread Spectrum Special Interest Group
> digest wrote:
> 
> > TAPR Spread Spectrum Special Interest Group Digest for Monday,
> March 19, 2001.
> >
> > 1. Re: ss digest: March 18, 2001
> > 2. Re: ss digest: March 18, 2001
> >
> > ----------------------------------------------------------------------
> >
> > Subject: Re: ss digest: March 18, 2001
> > From: Jim Ussailis <ussailis@equinox.shaysnet.com>
> > Date: Mon, 19 Mar 2001 11:30:56 -0500 (EST)
> > X-Message-Number: 1
> >
> > Help...
> >
> > I have been looking for a "simple" solution to demodulate a direct
> > sequence, spread-spectrum signal. There is plenty of literature
> > describing a Costas loop, squaring loop, etc. But nothing with
> an actual
> > working circuit.
> >

> > My IF is at 62.5 MHz, but I could easily change that.
> >
> > Once I have demodulated the signal, I have no problem locking
> to the code.
> >
> > Thanks,
> >
> > Jim Ussailis  W1EQO
> >
> > ----------------------------------------------------------------------
> >
> > Subject: Re: ss digest: March 18, 2001
> > From: "M.A.Pinfold" <xtr98002001>
> > Date: Tue, 20 Mar 2001 06:42:24 +1200
> > X-Message-Number: 2
> >
> > Hi Jim, have a look at James Vincent G1pvz  "Voice link over
> spread spectrum
> > radio"  in the english magazine  Electronics world +Wireless
> world  oct 1993
> > pgs 862 onwards if you cant find it locally I couls send you a
> copy  regards
> > Mike ZL1BTB
> > ----- Original Message -----
> > From: "Jim Ussailis" <ussailis@equinox.shaysnet.com>
> > To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
> > Cc: "ss digest recipients" <ss@lists.tapr.org>
> > Sent: Tuesday, March 20, 2001 4:30 AM
> > Subject: [ss] Re: ss digest: March 18, 2001
> >
> >
> > > Help...
> > >
> > > I have been looking for a "simple" solution to demodulate a direct
> > > sequence, spread-spectrum signal. There is plenty of literature
> > > describing a Costas loop, squaring loop, etc. But nothing
> with an actual
> > > working circuit.
> > >
> > > My IF is at 62.5 MHz, but I could easily change that.
> > >
> > > Once I have demodulated the signal, I have no problem locking
> to the code.
> > >
> > > Thanks,
> > >
> > > Jim Ussailis  W1EQO
> > >
> > > ---
> > > You are currently subscribed to ss as: PINFOLD@XTRA.CO.NZ
> > > To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
> > >
> > >
> >
> >
> >
> >
> >
> > ---
> >
> > END OF DIGEST
> >
> > ---
> > You are currently subscribed to ss as: ussailis@shaysnet.com
> > To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
> >
> >
>
> ---
> You are currently subscribed to ss as: srbible@gate.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 20. [ss] Re: ss digest: March 19, 2001

From: Jakob Hershko <JakobH@FoxcomWireless.com>
Date: Wed, 21 Mar 2001 10:07:04 +0200
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-1843-2001.03.21-02.24.36--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

HI
 I  looking for a  information about frequency hopping spread  spectrum
could you help me about this issue


-----Original Message-----
From: Jim Ussailis [mailto:ussailis@equinox.shaysnet.com]
Sent: Wednesday, March 21, 2001 12:44 AM
To: TAPR Spread Spectrum Special Interest Group
Cc: ss digest recipients
Subject: [ss] Re: ss digest: March 19, 2001


Thanks, I will try to find a copy. I receive that mag, but not that far
back.

If I can't find it, I'll take you up on your offer.

Again, thanks,

Jim Ussailis

On Tue, 20 Mar 2001, TAPR Spread Spectrum Special Interest Group digest
wrote:

> TAPR Spread Spectrum Special Interest Group Digest for Monday, March 19,
2001.
>
> 1. Re: ss digest: March 18, 2001
> 2. Re: ss digest: March 18, 2001
>
> ----------------------------------------------------------------------
>
> Subject: Re: ss digest: March 18, 2001
> From: Jim Ussailis <ussailis@equinox.shaysnet.com>
> Date: Mon, 19 Mar 2001 11:30:56 -0500 (EST)
> X-Message-Number: 1
>
> Help...
>
> I have been looking for a "simple" solution to demodulate a direct
> sequence, spread-spectrum signal. There is plenty of literature
> describing a Costas loop, squaring loop, etc. But nothing with an actual
> working circuit.
>
> My IF is at 62.5 MHz, but I could easily change that.
>
> Once I have demodulated the signal, I have no problem locking to the code.
>
> Thanks,
>
> Jim Ussailis  W1EQO
>
> ----------------------------------------------------------------------
>
> Subject: Re: ss digest: March 18, 2001
> From: "M.A.Pinfold" <xtr98002001>
> Date: Tue, 20 Mar 2001 06:42:24 +1200
> X-Message-Number: 2
>
> Hi Jim, have a look at James Vincent G1pvz  "Voice link over spread
spectrum
> radio"  in the english magazine  Electronics world +Wireless world  oct
1993
> pgs 862 onwards if you cant find it locally I couls send you a copy
regards
> Mike ZL1BTB
> ----- Original Message -----
> From: "Jim Ussailis" <ussailis@equinox.shaysnet.com>
> To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
> Cc: "ss digest recipients" <ss@lists.tapr.org>
> Sent: Tuesday, March 20, 2001 4:30 AM

> Subject: [ss] Re: ss digest: March 18, 2001
>
>
> > Help...
> >
> > I have been looking for a "simple" solution to demodulate a direct
> > sequence, spread-spectrum signal. There is plenty of literature
> > describing a Costas loop, squaring loop, etc. But nothing with an actual
> > working circuit.
> >
> > My IF is at 62.5 MHz, but I could easily change that.
> >
> > Once I have demodulated the signal, I have no problem locking to the
code.
> >
> > Thanks,
> >
> > Jim Ussailis  W1EQO
> >
> > ---
> > You are currently subscribed to ss as: PINFOLD@XTRA.CO.NZ
> > To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
> >
> >
>
>
>
>
> ---
>
> END OF DIGEST
>
> ---
> You are currently subscribed to ss as: ussailis@shaysnet.com
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>

---
You are currently subscribed to ss as: jakobh@foxcomwireless.com
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 21. [ss] Re: ss digest: March 18, 2001

From: "Kenneth H. Sinclair" <khs@wirelesscomputing.net>
Date: Wed, 21 Mar 2001 09:13:42 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-1912-2001.03.21-08.29.46--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have been looking for a "simple" solution to demodulate a direct
    sequence, spread-spectrum signal. There is plenty of literature
    describing a Costas loop, squaring loop, etc. But nothing with an actual
    working circuit.

    My IF is at 62.5 MHz, but I could easily change that.

    Once I have demodulated the signal, I have no problem locking to the code.

I'm not sure I understand your desired architecture or implementation
technology; my own experience is doing this in the digital domain
on soft metric phase information.  Probably you're looking at
demodulating PSK to baseband, then PN matched filter or correlator on
that, which you'll track to PN sync?  This fellow

http://www.oakland.edu/~msharawi/ds_ss_circuit.pdf

has a very simple design for that, which could be done in discrete
logic.

This one is a more comprehensive look at the problem, only done in
simulation but still a practical perspective.

http://www.doe.carleton.ca/~jknight/Bridge_Camp2000/PrjCov99a.PDF

And this one is a bit less practical but has more on PN acquisition

and the PN matched filter architecture:

http://www.janet.ucla.edu/~cdeng/thesis.pdf

Hope that's helpful...

Ken Sinclair
khs@ieee.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 22. [ss] hello

From: prashanth ramkumar <prashanth1998@yahoo.com>
Date: Wed, 21 Mar 2001 21:52:13 -0800 (PST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-2109-2001.03.22-00.08.14--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi veterans of ss ,
        I'm a student of communication engineering and got
interested in spread spectrum when the head of my
dept. at college asked me to write a paper on it .
Since then I 've collected and assimilated quite some
info on the same. I joined the TAPR mailing lists
about 5 months ago and have been regularly going thru
the mail you guys have been flashing by.I'd be glad if
any of you could answer a couple of my queries.
        * I 'd like to know if there's a way to dive into the
ss industry as soon as I leave college. ( I'm doing a
Bachelor of Engineering in India )
        * What should be an ideal low cost working model in
ss that I could present as my B.E. project? (I could
also take up a small part of the project any of you
people are working on for the same purpose).
        Concerning the latter, would a domestic security
system with the devices interconnected  by  spread
spectrum or bluetooth-based wireless links be a good
idea?

My e-mail address is     prashanth1998@yahoo.com     .

_____
Do You Yahoo!?
Get email at your own domain with Yahoo! Mail.
http://personal.mail.yahoo.com/

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 23. [ss] Re: ss digest: March 18, 2001

From: Jakob Hershko <JakobH@FoxcomWireless.com>
Date: Thu, 22 Mar 2001 10:54:12 +0200
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-2127-2001.03.22-03.11.41--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

HI
 I looking for  a  theory obout frequency hopping spread sprectrum
thanks any ware

-----Original Message-----
From: Kenneth H. Sinclair [mailto:khs@wirelesscomputing.net]
Sent: Wednesday, March 21, 2001 4:14 PM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] Re: ss digest: March 18, 2001

    I have been looking for a "simple" solution to demodulate a direct
    sequence, spread-spectrum signal. There is plenty of literature
    describing a Costas loop, squaring loop, etc. But nothing with an actual

    working circuit.

    My IF is at 62.5 MHz, but I could easily change that.

Once I have demodulated the signal, I have no problem locking to the code.

I'm not sure I understand your desired architecture or implementation technology; my own experience is doing this in the digital domain on soft metric phase information. Probably you're looking at demodulating PSK to baseband, then PN matched filter or correlator on that, which you'll track to PN sync? This fellow

http://www.oakland.edu/~msharawi/ds_ss_circuit.pdf

has a very simple design for that, which could be done in discrete logic.

This one is a more comprehensive look at the problem, only done in simulation but still a practical perspective.

http://www.doe.carleton.ca/~jknight/Bridge_Camp2000/PrjCov99a.PDF

And this one is a bit less practical but has more on PN acquisition and the PN matched filter architecture:

http://www.janet.ucla.edu/~cdeng/thesis.pdf

Hope that's helpful...

Ken Sinclair
khs@ieee.org

---
You are currently subscribed to ss as: jakobh@foxcomwireless.com
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 24. [ss] RE: hello

From: "Rochford, Richard E (Dick)" <rerochford@lucent.com>
Date: Thu, 22 Mar 2001 08:24:52 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-2188-2001.03.22-07.40.55--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Prashanth,

The best place to go is into the cellular industry. Right now the 3G systems are being developed, and none of them are low cost or simple, but all of them are using SS in one form or another.

For a project I would try a simple direct sequence system. There are several amateur radio projects which have demonstrated these techniques. See if you can get a hold of an amateur radio hand book there is a chapter devoted to SS in it. I would try something simple like modulating an RF signal with a m-array shift register, and then demonstrating correlation with the same shift register in the opposite direction. If you drive the shift registers from the same clock you will not have to worry about synchronization, but you would also want to demonstrate what happen when there is no synchronization.

Good Luck,

Richard E. Rochford
WB7RPH

-----Original Message-----
From: prashanth ramkumar [mailto:prashanth1998@yahoo.com]
Sent: Thursday, March 22, 2001 0:52 AM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] hello

Hi veterans of ss ,
I'm a student of communication engineering and got interested in spread spectrum when the head of my dept. at college asked me to write a paper on it .

Since then I 've collected and assimilated quite some
info on the same. I joined the TAPR mailing lists
about 5 months ago and have been regularly going thru
the mail you guys have been flashing by.I'd be glad if
any of you could answer a couple of my queries.
        * I 'd like to know if there's a way to dive into the
ss industry as soon as I leave college. ( I'm doing a
Bachelor of Engineering in India )
        * What should be an ideal low cost working model in
ss that I could present as my B.E. project? (I could
also take up a small part of the project any of you
people are working on for the same purpose).
        Concerning the latter, would a domestic security
system with the devices interconnected  by  spread
spectrum or bluetooth-based wireless links be a good
idea?

My e-mail address is     prashanth1998@yahoo.com     .

_____
Do You Yahoo!?
Get email at your own domain with Yahoo! Mail.
http://personal.mail.yahoo.com/

---
You are currently subscribed to ss as: R.E.ROCHFORD@LUCENT.COM
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 25. FREE Biotech Stock Info! 752

From: <biotechstox88@yahoo.com>
Date: Fri, 23 Mar 2001 18:50:30
To: lyris.ss@tapr.org
Message-ID: <93.568605.753866@yahoo.com>
Rendered body type: text/html

Do you want to capitalize on the Biotech Revolution

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you want to capitalize on the Biotech Revolution? Would you like to add
groundbreaking biotech, pharmaceutical and medical device companies to your
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from life sciences companies interest you?

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exclusive Ruddy-Carlisle Biotech Infoline service keeps you abreast of
investment opportunities in the life sciences space. Just sign up for it once
and get important information instantly delivered to study at your leisure. Our
service is 100% FREE! Sign
up! <mailto:biotechsubscribe2@yahoo.com>

Ruddy-Carlisle
Biotech Infoline:

Instantly
delivers key life sciences investment information directly to you!

Learn
about biotech, pharmaceutical & medical device investment opportunities
before others!

Includes
IPO & private placement information!

100%
FREE!

For
the entire last decade there were only three profitable biotech companies. At
the end of this year, ten are projected. At the end of 2003, over forty
are projected! The genomic promise is about to be delivered and investors know
it. The Ruddy-Carlisle Biotech Infoline provides you with critical,
decision-making, information that aids the chance of investment success in this
lucrative space. Sign
up! <mailto:biotechsubscribe2@yahoo.com>

Please
Note- Your information will only be
shared with companies that are in the life sciences space and pass our
rigorous inspection. Only the best opportunities will come to you.
Ruddy-Carlisle respects your privacy. Sign
up! <mailto:biotechsubscribe2@yahoo.com>

List Removal Instructions- Simply click here: remove <mailto:remobiotech3@yahoo.com>
to be instantly and permanently removed from our list. Send the blank email to
the address specified. Please do not try to reply to this message.

## 26. [ss] Re: ss digest: March 22, 2001

From: "Bert Herald" <wf7i@hotmail.com>
Date: Tue, 27 Mar 2001 10:50:57 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: prashanth1998@yahoo.com
Message-ID: <LYR6751-3129-2001.03.27-12.07.15--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>
>Subject: hello
>From: prashanth ramkumar <prashanth1998@yahoo.com>
>Date: Wed, 21 Mar 2001 21:52:13 -0800 (PST)
>X-Message-Number: 1
>
>Hi veterans of ss ,
>       I'm a student of communication engineering and got
>interested in spread spectrum when the head of my
>dept. at college asked me to write a paper on it .
>Since then I 've collected and assimilated quite some
>info on the same. I joined the TAPR mailing lists
>about 5 months ago and have been regularly going thru
>the mail you guys have been flashing by.I'd be glad if
>any of you could answer a couple of my queries.
>       * I 'd like to know if there's a way to dive into the
>ss industry as soon as I leave college. ( I'm doing a
>Bachelor of Engineering in India )
>       * What should be an ideal low cost working model in
>ss that I could present as my B.E. project? (I could
>also take up a small part of the project any of you
>people are working on for the same purpose).
>       Concerning the latter, would a domestic security
>system with the devices interconnected  by  spread
>spectrum or bluetooth-based wireless links be a good
>idea?
>
>My e-mail address is     prashanth1998@yahoo.com     .
>

Prashanth,
I work in the wireless industry, for a popular cell phone company.  There
are a variety of job positions that might fit what you're looking for
interest-wise, from working in a particular market doing deployments or at a
higher-level working on new technology testing (something that I myself
would like to transition into someday).  Drop me an email at
WF7I@hotmail.com if you'd like to talk about this further.

I don't have a suggestion for your SS project, although I would also like to
know of some designs that are available, especially for a direct sequence
system, as a project for a local club I'm forming.

73s,
Bert
_____
Get your FREE download of MSN Explorer at http://explorer.msn.com

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 27. [ss] New experiment club first meeting

From: "Bert Herald" <wf7i@hotmail.com>
Date: Tue, 27 Mar 2001 10:59:31 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-3130-2001.03.27-12.15.46--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Ladies and gentlemen of the SS mailing list,

I wanted to pass along that a new club is forming in Tucson, AZ with the exclusive purpose of project building, experimentation, and innovation.

For the first meeting next Wednesday, I'm gathering articles on various projects that are relatively simple to put together, with a bent towards new digital technologies (basically, PSK31 and APRS for starters). Antenna designs are fine also. I know there's a lot of tinkerers and experimenters on this mailing list. If any of you have some articles on Spread Spectrum projects that you can forward on to me, or any other new technology projects that you've been working on, that would be really great.

Thanks, and 73s from "TAREG" (Tucson Amateur Radio Experimenter's Group),
WF7I

_____
Get your FREE download of MSN Explorer at http://explorer.msn.com

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 28. [ss] An Invitation from the Asia-Pacific Rim

From: "APEC" <apec@chinanusa.com>
Date: Wed, 28 Mar 2001 17:53:23 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-3665-2001.03.29-19.26.12--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Aiming at Asia-Pacific Market?
Here's your one and only chance this year to target
21 developed and developing member economies in the Asia-Pacific rim
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Industrial Science and Technology Cooperation
Conference and Exhibition
September 21 - 25, 2001
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* Venture capitalists and other investors who want to identify promising high-tech companies and investment opportunities
* Entrepreneurs who are seeking market expansion to the Asia-Pacific region

Best Chance to Showcase Technologies
* Exhibition & transaction of high technology & hi-tech products.
* Bid for technological cooperation.
* Discussions & negotiations on technological transaction and cooperation.
* APEC forum on science and technology.

All the Opportunities!
* Technomart is endorsed by APEC's 21 member economies that had a combined Gross Domestic Product of over US$18 trillion in 1999 and 43.85 percent of global trade.
* In Technomart III, attendees included 1,000+ hi-tech exhibitors and recorded 37,000 visitors.
* In Technomart III, over 5,000 business negotiations occurred, involving trade in excess of about US$ 100 million over the course of the five-day event.
* Direct connection to China market.

Service Center

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*       Technomart representation
*       Exhibition Booth & Expense
<http://www.apec2001.org/apec_booth.asp>
*       Booth arrangements and allocation
*       Transportation
*       Hotels <http://www.apec2001.org/apec_hotel.asp>
*       Sourcing/manufacturers visits
*       On-site public relation facilitation, media     coverage
*       Collateral translation
*       Escort interpretation
*       Leisure touring in Suzhou and its vacinities


Key Technological Areas
*       Biotechnology
*       Environmental and cleaner production     technologies
*       Communication
*       Information technologies / electronics
*       Advanced materials
*       Mechatronics
*       Transportation
*       Resource management technology
*       Energy
*       Sustainable agriculture
*       Emergency preparedness and climate     prediction
*       Exploitation of natural resources

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  For Technomart IV services, please visit:
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  For exhibition booth information, please visit:
http://www.apec2001.org/apec_booth.asp
  For on-line registration information, please click:
<http://www.apec2001.org/apec_registernow.asp>
For further questions, please email us at apec@CHINAnUSA.com
<mailto:apec@CHINAnUSA.com>  or call Jessica Pan at (510) 497-8783.
  _____

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Or you can reply to this email with 'Unsubscribe' as subject title.

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```

## 29. [ss] Re: New experiment club first meeting

```
From: "PAOLO" <RV9J@VIRGILIO.IT>
Date: Sat, 31 Mar 2001 10:21:57
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-3989-2001.03.31-10.38.19--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Dear Brett,
following yr.last message, personally i'd like to tell you that
i'm interested to cooperating with SS group.
Pls let me know which new topics could be well considered to be
applied at the new project ideas in this research group that you
want to build to.
I really appreciate yr. outcome.
Best Regards
Paul
```

RV9J@virgilio.it
I.E.E.E. W.P. Comm. Certificate

---
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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

# May 2001

Original source file: ss.0105
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/ss.0105

## 1. [ss] Pay all your bills online and send money to anyone

From: Michael@treasurecom.com
Date: Fri, 04 May 2001 22:56:15
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-10918-2001.05.04-22.02.01--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/html

BillsXpress4u

```
<!--
/* Style Definitions */
p.MsoNormal, li.MsoNormal, div.MsoNormal
{mso-style-parent:"";
margin:0in;
margin-bottom:.0001pt;
mso-pagination:widow-orphan;
font-size:12.0pt;
font-family:"Times New Roman";
mso-fareast-font-family:"Times New Roman";}
p.MsoBodyText, li.MsoBodyText, div.MsoBodyText
{margin-right:0in;
mso-margin-top-alt:auto;
mso-margin-bottom-alt:auto;
margin-left:0in;
mso-pagination:widow-orphan;
font-size:12.0pt;
font-family:"Times New Roman";
mso-fareast-font-family:"Times New Roman";}
a:link, span.MsoHyperlink
{color:blue;
text-decoration:underline;
text-underline:single;}
a:visited, span.MsoHyperlinkFollowed
{color:blue;
text-decoration:underline;
text-underline:single;}
@page Section1
{size:8.5in 11.0in;
margin:1.0in 1.25in 1.0in 1.25in;
mso-header-margin:.5in;
mso-footer-margin:.5in;
mso-paper-source:0;}
div.Section1
{page:Section1;}
-->



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IN AFFILIATION WITH

First Union National Bank

 OFFERING LOWCOST SECURE ON-LINE
BILL PAYMENT

http://www.billsxpress4u.com/ <http://www.billsxpress4u.com/>
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605 Belvedere
Road, Suite 16

West Palm Beach, Fl 33405

Tel:
561-366-8611

Fax:
561-366-8621

## 2. [ss] Re: Pay all your bills online and send money to anyone

From: Brett Glass <brett@lariat.org>
Date: Fri, 04 May 2001 21:29:31 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-10965-2001.05.04-22.47.54--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Gee, list manager, thanks for erasing all information about the spam's
origin so that it's easier for us to complain or shut down the open
relay through which it may have been sent (Not!).

--Brett Glass

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 3. [ss] Re: Pay all your bills online and send money to anyone

From: Hamish Moffatt <hamish@cloud.net.au>
Date: Sat, 5 May 2001 14:17:29 +1000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-10975-2001.05.04-23.35.39--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Fri, May 04, 2001 at 09:29:31PM -0600, Brett Glass wrote:
> Gee, list manager, thanks for erasing all information about the spam's
> origin so that it's easier for us to complain or shut down the open
> relay through which it may have been sent (Not!).

That's Lyris in action, possibly the worst mailing list software ever.

Hamish
--
Hamish Moffatt VK3SB <hamish@debian.org> <hamish@cloud.net.au>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 4. [ss] Re: Pay all your bills online and send money to anyone

From: "Chuck Hast" <kp4djt@tampabay.rr.com>
Date: Sat, 05 May 2001 10:39:56 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-11062-2001.05.05-09.57.58--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have it here do you want it?
Some bill pay operation out of West Palm Beach. Even has the phone numbers
and address in it. I can send you all of the junk, that comes to you from the town
that could not READ or Count.... (note I live in Tampa, we can read and count)

On Fri, 04 May 2001 21:29:31 -0600, Brett Glass wrote:

>Gee, list manager, thanks for erasing all information about the spam's
>origin so that it's easier for us to complain or shut down the open
>relay through which it may have been sent (Not!).
>
>--Brett Glass
>
>
>---
>You are currently subscribed to ss as: kp4djt@tampabay.rr.com
>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>

Chuck Hast                              e-mail      kp4djt@tampabay.rr.com

   ---- FPAC ----
www.qsl.net/fpac/


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 5. [ss] Re: Pay all your bills online and send money to anyone

From: Brett Glass <brett@lariat.org>
Date: Sat, 05 May 2001 09:44:14 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-11074-2001.05.05-11.02.37--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Someone should, at least, contact the ISPs for both their
Web sites and their e-mail and have their accounts nuked.

--Brett

At 09:39 AM 5/5/2001, Chuck Hast wrote:

>I have it here do you want it?
>Some bill pay operation out of West Palm Beach. Even has the phone numbers
>and address in it. I can send you all of the junk, that comes to you from the town
>that could not READ or Count.... (note I live in Tampa, we can read and count)


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 6. [ss] Re: Pay all your bills online and send money to anyone

From: Steve Dimse <k4hg@tapr.org>
Date: Sat, 5 May 2001 11:53:06 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-11075-2001.05.05-11.11.06--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>Someone should, at least, contact the ISPs for both their
>Web sites and their e-mail and have their accounts nuked.
>
Much as I hate spam on mail lists, I hate the 10 vigilante emails that
are sure to follow far more!

Steve K4HG

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 7. [ss] Re: Pay all your bills online and send money to anyone

From: John Koster <w9ddd@tapr.org>
Date: Sat, 5 May 2001 12:00:37 -0500 (CDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-11084-2001.05.05-12.18.39--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Amen

John Koster, W9DDD

On Sat, 5 May 2001, Steve Dimse wrote:

> >Someone should, at least, contact the ISPs for both their
> >Web sites and their e-mail and have their accounts nuked.
> >
> Much as I hate spam on mail lists, I hate the 10 vigilante emails that
> are sure to follow far more!
>
> Steve K4HG
>
> ---
> You are currently subscribed to ss as: W9DDD@TAPR.ORG
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 8. [ss] Re: Pay all your bills online and send money to anyone

From: "Chris" <w4yyz@tampabay.rr.com>
Date: Sat, 5 May 2001 13:04:01 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-11088-2001.05.05-12.21.43--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> >Someone should, at least, contact the ISPs for both their
> >Web sites and their e-mail and have their accounts nuked.
> >
> Much as I hate spam on mail lists, I hate the 10 vigilante emails that
> are sure to follow far more!
>
> Steve K4HG
>
> ---

I agree, but it would be easier to just setup the list to run correctly
and not have to worry about it!

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 9. [ss] Re: Pay all your bills online and send money to anyone

From: John Koster <w9ddd@tapr.org>
Date: Sat, 5 May 2001 12:26:50 -0500 (CDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-11092-2001.05.05-12.44.58--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Unfortunately everyone's definition of 'correct setup' is different.
How about being happy that this isn't one of those lists that comes with
built-in spam on every message.

John Koster, W9DDD

On Sat, 5 May 2001, Chris wrote:

> > >Someone should, at least, contact the ISPs for both their
> > >Web sites and their e-mail and have their accounts nuked.
> > >
> > Much as I hate spam on mail lists, I hate the 10 vigilante emails that
> > are sure to follow far more!
> >
> > Steve K4HG
> >
> > ---
>
> I agree, but it would be easier to just setup the list to run correctly
> and not have to worry about it!
>
>
>
>
> ---

> You are currently subscribed to ss as: W9DDD@TAPR.ORG
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 10. [ss] Re: Pay all your bills online and send money to anyone

From: Gerry Creager N5JXS <gerry@cs.tamu.edu>
Date: Sat, 05 May 2001 15:43:17 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-11123-2001.05.05-16.02.07--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hamish Moffatt wrote:
>
> On Fri, May 04, 2001 at 09:29:31PM -0600, Brett Glass wrote:
> > Gee, list manager, thanks for erasing all information about the spam's
> > origin so that it's easier for us to complain or shut down the open
> > relay through which it may have been sent (Not!).
>
> That's Lyris in action, possibly the worst mailing list software ever.

Now, now... that's just your opinion.  The guys at TAPR will tell you
that in their opinion, the web interface and automagic archiving, thus
reducing the drag on Stan's valuable time, as well as allowing a list
admin to tell the list management package to limit the amount of quoted
material (EVEN IF PERTINENT!) so as to limit valid interaction.. oh, I'm
sorry, to limit the length of otherwise non-pertinent posts.

See, it really IS your opinion.  And mine, too!
--
Gerry Creager -- gerry@cs.tamu.edu
Network Engineering                     |Research focusing on
Academy for Advanced Telecommunications |Satellite Geodesy and
and Learning Technologies               |Geodetic Control
Texas A&M University    979.458.4020  (Phone) -- 979.847.8578  (Fax)

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 11. [ss] Re: Pay all your bills online and send money to anyone

From: Hamish Moffatt <hamish@cloud.net.au>
Date: Sun, 6 May 2001 10:15:38 +1000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-11138-2001.05.05-19.34.15--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Sat, May 05, 2001 at 03:43:17PM -0500, Gerry Creager N5JXS wrote:
> Hamish Moffatt wrote:
> > That's Lyris in action, possibly the worst mailing list software ever.
>
> Now, now... that's just your opinion.  The guys at TAPR will tell you
> that in their opinion, the web interface and automagic archiving, thus
> reducing the drag on Stan's valuable time, as well as allowing a list
> admin to tell the list management package to limit the amount of quoted
> material (EVEN IF PERTINENT!) so as to limit valid interaction.. oh, I'm
> sorry, to limit the length of otherwise non-pertinent posts.
>
> See, it really IS your opinion.  And mine, too!

:-)

I can't comment on most of the 'features' you listed, but the web
interface is (again in my opinion) completely unusable.

Hamish
--
Hamish Moffatt VK3SB <hamish@debian.org> <hamish@cloud.net.au>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 12. [ss] Re: Pay all your bills online and send money to anyone

From: Francis See <francisc@asia.com>
Date: Sun, 06 May 2001 13:06:36 +0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-11235-2001.05.06-00.25.25--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I'm not sure what what's worst: the 1 spam that came out or the 10+ spam comments unrelated to SS, including mine.

I just couldn't help it....I guess I'm sucker too by sending this.

NO NEED TO REPLY....UNLESS YOU WANT TO TURN "TAPR SS GROUP" TO THE "SUCKER" GROUP.

Francis/DU3HF

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 13. [ss] Re: ss digest: May 06, 2001

From: Jim Ussailis <ussailis@equinox.shaysnet.com>
Date: Mon, 7 May 2001 20:22:03 -0400 (EDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: ss digest recipients <ss@lists.tapr.org>
Message-ID: <LYR6751-11511-2001.05.07-19.38.39--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Is there any possible way to get rid of this spam? During Friday & Saturday, while I was at the local "Hosstraders" flea market I received 34 emails. 29 were spam.

No, I never reply. Just hit "D" & let it go. But it is becomming a pain in the....

Jim, W1EQO

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 14. [ss] !"#$

From: Alessandro Orsi <alessandro.orsi@telnetsystems.it>
Date: Tue, 08 May 2001 02:38:37 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-11558-2001.05.08-02.38.37--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

[Empty message body]
[Attachment: CFGWIZ32.EXE; image/gif; 94,208 bytes]

## 15. [ss] Report to Recipient(s)

From: US01N08@logitech.com
Date: Tue, 8 May 2001 00:22:55 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-11559-2001.05.08-02.41.08--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Incident Information:-

Originator:    bounce-ss-4889@lists.tapr.org
Recipients:    "TAPR Spread Spectrum Special Interest Group"
<ss@lists.tapr.org>
Subject:  [ss] !"#$

WARNING:  The file CFGWIZ32.EXE you received was infected with the W32/Magistr@MM virus.  The file attachment was not successfully cleaned.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 16. [ss] Your attention required Win32/Magistr.24876

From: rsssecur@rci.rogers.com
Date: Tue, 08 May 2001 03:16:47 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-11560-2001.05.08-02.41.36--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The following event requires your attention.

An E-mail that you have sent or received  may contained a copy of  virus/worm/trojan --
Win32/Magistr.24876.  Please scan your system with the  latest anti- virus scanning tools and refrain
from sending any further e-mail until you have the removed the virus or viruses from your system. If you
 require assistance or if a virus was not detected by your scanner, please contact your Helpdesk.

If you require assistance or virus was not detected by your scanner, please contact your Helpdesk.

Sender  -------<bounce-ss-5021@lists.tapr.org>
Recipient-----"TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Tile------------- [ss] !"#$
Virus------------Win32/Magistr.24876

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 17. [ss] Re: Report to Recipient(s)

From: Hamish Moffatt <hamish@cloud.net.au>
Date: Tue, 8 May 2001 19:51:30 +1000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-11567-2001.05.08-05.09.39--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Tue, May 08, 2001 at 12:22:55AM -0700, US01N08@logitech.com wrote:
> Incident Information:-

Of course, all of these email systems are misconfigured. They
shouldn't be emailing this reports back to the list, but
to the original sender of the message.

Hamish
--
Hamish Moffatt VK3SB <hamish@debian.org> <hamish@cloud.net.au>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 18. [ss] Re: !"#$

From: Brett Glass <brett@lariat.org>
Date: Tue, 08 May 2001 05:18:51 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-11576-2001.05.08-07.38.24--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I hope no one on the list is foolish enough to run the attachment
to the message with this subject. Almost certainly a Trojan.

--Brett

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 19. [ss] Re: !"#$

From: "Brad Ford" <bford@mail.venuality.com>
Date: Tue,  8 May 2001 08:43:56 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-11583-2001.05.08-07.56.40--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

---------- Original Message ----------------------------------
From: Brett Glass <brett@lariat.org>
Reply-To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Date: Tue, 08 May 2001 05:18:51 +0000

>I hope no one on the list is foolish enough to run the attachment
>to the message with this subject. Almost certainly a Trojan.
>

>--Brett
>
>
>---
>You are currently subscribed to ss as: bford@mail.venuality.com
>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 20. [ss] Re: Report to Recipient(s)

From: "Brad Ford" <bford@mail.venuality.com>
Date: Tue,  8 May 2001 08:44:46 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-11584-2001.05.08-07.57.46--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

---------- Original Message ----------
From: Hamish Moffatt <hamish@cloud.net.au>
Reply-To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Date: Tue, 8 May 2001 19:51:30 +1000

>On Tue, May 08, 2001 at 12:22:55AM -0700, US01N08@logitech.com wrote:
>> Incident Information:-
>
>Of course, all of these email systems are misconfigured. They
>shouldn't be emailing this reports back to the list, but
>to the original sender of the message.
>
>
>Hamish
>--
>Hamish Moffatt VK3SB <hamish@debian.org> <hamish@cloud.net.au>
>
>---
>You are currently subscribed to ss as: bford@mail.venuality.com
>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 21. [ss] Yes, it IS a Trojan.

From: Brett Glass <brett@lariat.org>
Date: Tue, 08 May 2001 09:53:13 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-11645-2001.05.08-12.13.49--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

It tests positive for Magistr/32. Be careful of this one, folks; it's destructive. Apparently, this strain picks a file name and an icon from the previous victim's hard disk, attaches them to itself, and then propagates.

--Brett


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 22. [ss] RE: Report to Recipient(s)

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Wed, 9 May 2001 08:10:05 +1000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-11708-2001.05.08-17.28.17--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hmm, thought so.  Our systems removed the file as "suspicious" as well...

Thouight the name looked familiar.

Tony Langdon.
Systems Development and Support.

ATC Training Australasia.  Level 2 321 Exhibition St Melbourne  3000.
Phone:  1300 13 1983     WWW:  http://www.atctraining.com.au

> -----Original Message-----
> From: US01N08@logitech.com [mailto:US01N08@logitech.com]
> Sent: Tuesday, 8 May 2001 17:23
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Report to Recipient(s)
>
>
> Incident Information:-
>
> Originator:    bounce-ss-4889@lists.tapr.org
> Recipients:    "TAPR Spread Spectrum Special Interest Group"
> <ss@lists.tapr.org>
> Subject:  [ss] !"#$
>
> WARNING:  The file CFGWIZ32.EXE you received was infected with the
> W32/Magistr@MM virus.  The file attachment was not
> successfully cleaned.
>
>
> ---
> You are currently subscribed to ss as: tlangdon@atctraining.com.au
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 23. [ss] Re: !"#$

From: "Bobbie Johnson" <bobbiej@vnet.net>
Date: Wed, 9 May 2001 01:38:45 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-11789-2001.05.09-01.06.11--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The original message contains a virus in the attachment. DO NOT OPEN THE
ATTACHMENT..... Bobbie
----- Original Message -----
From: "Alessandro Orsi" <alessandro.orsi@telnetsystems.it>
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Sent: Tuesday, May 08, 2001 4:38 AM
Subject: [ss] !"#$

>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 24. [ss] Re: !"#$

From: "Chuck Hast" <kp4djt@tampabay.rr.com>
Date: Fri, 11 May 2001 23:03:36 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-12300-2001.05.11-22.22.03--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Sure am glad I do this e-mail stuff on a non-MS system, so far have not had
a virus problem yet. Good old OS/2 (my other machine is LINUX) still is good
for a few things... B-]

On Wed, 9 May 2001 01:38:45 -0400, Bobbie Johnson wrote:

>The original message contains a virus in the attachment. DO NOT OPEN THE
>ATTACHMENT..... Bobbie
>----- Original Message -----
>From: "Alessandro Orsi" <alessandro.orsi@telnetsystems.it>
>To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
>Sent: Tuesday, May 08, 2001 4:38 AM
>Subject: [ss] !"#$
>
>

>>
>
>
>---
>You are currently subscribed to ss as: kp4djt@tampabay.rr.com
>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>

Chuck Hast                                e-mail      kp4djt@tampabay.rr.com

   ---- FPAC ----
www.qsl.net/fpac/


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 25. [ss] Re: !"#$

From: Brett Glass <brett@lariat.org>
Date: Fri, 11 May 2001 21:54:09 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-12306-2001.05.11-23.12.34--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 10:03 PM 5/11/2001, Chuck Hast wrote:

>Sure am glad I do this e-mail stuff on a non-MS system, so far have not had
>a virus problem yet. Good old OS/2 (my other machine is LINUX) still is good
>for a few things... B-]

It is not advisable to be too smug. IBM's TCP/IP stack for OS/2 is a
relatively old version of the Berkeley stack, and its server daemons
are vulnerable to many of the same hacks.

--Brett


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 26. [ss] Re: !"#$

From: Devin Butterfield <dbutter@wireless.net>
Date: Fri, 11 May 2001 22:17:41 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-12322-2001.05.12-00.34.14--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Friday 11 May 2001  8:54, Brett Glass wrote:
> At 10:03 PM 5/11/2001, Chuck Hast wrote:
> >Sure am glad I do this e-mail stuff on a non-MS system, so far have not
> > had a virus problem yet. Good old OS/2 (my other machine is LINUX) still
> > is good for a few things... B-]
>
> It is not advisable to be too smug. IBM's TCP/IP stack for OS/2 is a
> relatively old version of the Berkeley stack, and its server daemons
> are vulnerable to many of the same hacks.
>

You guys should really be running FreeBSD. Then this wouldn't be an issue. ;)
--
Regards, Devin.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 27. [ss] Re: !"#$

From: Brett Glass <brett@lariat.org>
Date: Sat, 12 May 2001 00:19:53 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-12323-2001.05.12-01.38.41--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 11:17 PM 5/11/2001, Devin Butterfield wrote:

>You guys should really be running FreeBSD. Then this wouldn't be an issue. ;)

If you run FreeBSD, make sure it's at least 4.3-RELEASE if not 4.3-STABLE.
They killed some serious security holes in the Berkeley networking code
(some of the same ones are in OS/2!) between 4.2 and 4.3.

--Brett

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 28. [ss] 802.11, a versus b

From: "Scott C. Best" <sbest00@svpal.org>
Date: Sun, 13 May 2001 15:27:51 -0700 (PDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-12526-2001.05.13-17.46.14--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Heyaz. Am curious for any leads to research or app notes
describing the performance tradeoffs between 802.11a and 802.11b.
Am Google'ing for such things, of course, but any preferred references
would be very appreciated.
        Am looking to compare and contrast modulation types, BOM
costs, LoS issues, propagation and absorbtion, etc.
        Thanks in advance!

-Scott

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 29. [ss] RE: 802.11, a versus b

From: "Kenneth H. Sinclair" <khs@wirelesscomputing.net>
Date: Mon, 14 May 2001 06:46:44 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-12604-2001.05.14-06.05.28--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

There's not much of that info available yet, since the application
developers and OEMs don't really have 802.11a parts to work with.
Best resource is the 802.11 working group, you can go through their
minutes to see how they were analyzing tradeoffs and making decisions.

http://grouper.ieee.org/groups/802/11/

I'm optimistic about 802.11a, because of its clear spectrum (no
bluetooth worries) and the highly integrated bulk CMOS parts that
some new startups like Radiata and Atheros have come up with.  But
propagation at that frequency and bit rate is a concern.

> -----Original Message-----
> From: bounce-ss-9486@lists.tapr.org
> [mailto:bounce-ss-9486@lists.tapr.org]On Behalf Of Scott C. Best
> Sent: Sunday, May 13, 2001 6:28 PM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] 802.11, a versus b
>
>
>     Heyaz. Am curious for any leads to research or app notes
> describing the performance tradeoffs between 802.11a and 802.11b.
> Am Google'ing for such things, of course, but any preferred references
> would be very appreciated.
>     Am looking to compare and contrast modulation types, BOM
> costs, LoS issues, propagation and absorbtion, etc.
>     Thanks in advance!
>
> -Scott
>
> ---
> You are currently subscribed to ss as: khs@ieee.org
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 30. [ss] RE: 802.11, a versus b

From: "Paul McInnish" <k4bet@cirronet.com>
Date: Mon, 14 May 2001 09:48:28 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-12630-2001.05.14-09.04.57--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Off & on over the past year or so, I have posted various items that touted why our firm DID NOT buy into the IEEE 802.11(x) standard because of problems, flaws, etc. and cautioned folks about using the 802.11 products. Man, you would not believe the "lam basting" and "flaming" I got each time! All telling me we did not know what we were talking about, we were prejudiced etc. For christ sake, logic tells you it could have saved us several million dollars in design, development, research and testing if we had gone to the 802.11(x) standards but it does NOT make any sense to start manufacturing and selling a product that sooner or later would bite us in the butt and knowing it had problems! We chose to develop proprietary protocols that overcome a lot of the problems associated with the findings about the flaws in the 802.11(x) standard....

HOLD IT! HOLD IT! Don't start your flame BEFORE you read further..., Please!

Please click on the URL listed below, read the article and in the article, there are several links to other sites that validate the flaws, problems, etc. with 802.11... i.e. IEEE Document number IEEE 802.11-00/362 (I have in PDF & can e-mail to you) written by a member of IEEE (works for Intel); Also a study by performed jointly by Nikita Borisov, Ian Goldberg, and David Wagner of the University of California, Berkeley (also I have in PDF & can e-mail to you). Additionally, a study (titled: "Your 802.11 Wireless Network has No Clothes") at the University of Maryland ALSO points out some additional flaws (I also have in PDF format if you want it...)

http://www.zdnet.com/zdnn/stories/comment/0,5859,2707262,00.html
(IF you don't want to go to this link, I can send the article in PDF format to you...)

Believe me... we have NO affiliation or connection with ANY of the parties involved in all the above mentioned articles and studies!!!! The researchers are very respected in their fields!

There are some other shortcomings with the standard but suffice it to say, not for us! We will just keep on replacing the 802.11(?) products as the noise, interference, jamming, point-to-multipoint problems keep causing users to look for another wireless data solution!

Best regards,

Paul McInnish - K4BET
Manager, Business Development
Cirronet, Inc. (formerly Digital Wireless)
5375 Oakbrook Parkway
Norcross, GA 30093, USA

Direct Phone: 678.684.2011
Fax: 678.684.2001
Cell Phone: 678.429.2124

Web site: http://www.cirronet.com

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The attached file(s) are in Adobe Acrobat .pdf format; if you do not have the Adobe Acrobat reader or desire the latest version - V 5.0, go to this web site for a free download:
http://www.adobe.com/products/acrobat/readstep2.html

----- Original Message -----

From: "Kenneth H. Sinclair" <khs@wirelesscomputing.net>
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Sent: Monday, May 14, 2001 6:46 AM
Subject: [ss] RE: 802.11, a versus b

: There's not much of that info available yet, since the application
: developers and OEMs don't really have 802.11a parts to work with.
: Best resource is the 802.11 working group, you can go through their
: minutes to see how they were analyzing tradeoffs and making decisions.
:
: http://grouper.ieee.org/groups/802/11/
:
: I'm optimistic about 802.11a, because of its clear spectrum (no
: bluetooth worries) and the highly integrated bulk CMOS parts that
: some new startups like Radiata and Atheros have come up with.  But
: propagation at that frequency and bit rate is a concern.
:
:
:     -----Original Message-----
:     From: bounce-ss-9486@lists.tapr.org
:     [mailto:bounce-ss-9486@lists.tapr.org]On Behalf Of Scott C. Best
:     Sent: Sunday, May 13, 2001 6:28 PM
:     To: TAPR Spread Spectrum Special Interest Group
:     Subject: [ss] 802.11, a versus b
:
:
:
:     Heyaz. Am curious for any leads to research or app notes
:     describing the performance tradeoffs between 802.11a and 802.11b.
:     Am Google'ing for such things, of course, but any preferred references
:     would be very appreciated.
:     Am looking to compare and contrast modulation types, BOM
:     costs, LoS issues, propagation and absorbtion, etc.
:     Thanks in advance!
:
:     -Scott
:
:
:     ---
:     You are currently subscribed to ss as: khs@ieee.org
:     To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
:
:
:
: ---
: You are currently subscribed to ss as: k4bet@digital-wireless.com
: To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
:


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 31. Your confirmation is needed (ok 6751)

From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Tue, 15 May 2001 09:38:06 -0600
To: lyris.ss@tapr.org
Message-ID: <LYR6751-12824-2001.05.15-09.38.06--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Your email address 'lyris.ss@tapr.org' has been submitted to be
unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be
unsubscribed.

To confirm that you do want to unsubscribe, reply to this message so that
the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to
unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the
mailing list.

---

Return-Path: <none_reply@worldses.org>
Received: from worldses.org ([194.219.139.197]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Tue, 15 May 2001 09:37:59 -0600
From: "WSES MIV: Official News Letter for MULTIMEDIA, INTERNET, VIDEO, SIGNAL AND IMAGE PROCESSING,
ROBOTICS, DISTANCE LEARNING, COMMUNICATIONS" <none_reply@worldses.org>
To: ss-request
Subject:
Sender: "WSES MIV: Official News Letter for MULTIMEDIA, INTERNET, VIDEO, SIGNAL AND IMAGE PROCESSING,
ROBOTICS, DISTANCE LEARNING, COMMUNICATIONS" <none_reply@worldses.org>
Mime-Version: 1.0
Content-Type: text/plain; charset="iso-8859-1"
Date: Tue, 15 May 2001 17:18:42 +0300
Content-Transfer-Encoding: 8bit

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <none_reply@worldses.org>
Received: from worldses.org ([194.219.139.197]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Tue, 15 May 2001 09:37:59 -0600
From: "WSES MIV: Official News Letter for MULTIMEDIA, INTERNET, VIDEO, SIGNAL AND IMAGE PROCESSING,
ROBOTICS, DISTANCE LEARNING, COMMUNICATIONS" <none_reply@worldses.org>
To: <leave-ss-6751t@lists.tapr.org>
Subject: WSES MIV: Official WSES News Letter for MULTIMEDIA, INTERNET, VIDEO, SIGNAL AND IMAGE
PROCESSING ROBOTICS, DISTANCE LEARNING, COMMUNICATIONS
Sender: "WSES MIV: Official News Letter for MULTIMEDIA, INTERNET, VIDEO, SIGNAL AND IMAGE PROCESSING,
ROBOTICS, DISTANCE LEARNING, COMMUNICATIONS" <none_reply@worldses.org>
Mime-Version: 1.0
Content-Type: text/plain; charset="iso-8859-1"
Date: Tue, 15 May 2001 17:18:42 +0300
Content-Transfer-Encoding: 8bit

**********
Please, do not reply to: none_reply@worldses.org, but see details
and other useful advice at the end of this message. If you want to
contact us, see the email address inside the context of the newsletter
**********

******

CONTENTS: IN THIS ISSUE, READ
1) INVITATION TO ALL THE MEMBERS OF OUR LIST! (see below)
2) HOW TO PROMOTE AN ANNOUNCEMENT FOR A NEW FACULTY, POST-DOCTORAL,
RESEARCH POSITION BY THIS NEWS LETTER (see below)

******

1) INVITATION TO ALL THE MEMBERS OF OUR LIST!
(if you are interested send a message to : malta2001@worldses.org

I have the honor to invite each of you to submit an Invited Paper
in the

* WSES International Conference: SPEECH, SIGNAL AND IMAGE PROCESSING 2001
(SSIP 2001)
  (technical co-sponsored by IEEE)
* WSES International Conference: MULTIMEDIA, INTERNET, VIDEO TECHNOLOGIES
2001 (MIV 2001)
  (technical co-sponsored by IEEE)
* WSES International Conference: SIMULATION 2001 (SIM 2001)
  (technical co-sponsored by IEEE)
* WSES International Conference: ROBOTICS, DISTANCE LEARNING AND
INTELLIGENT COMMUNICATION SYSTEMS 2001
  (RODLICS 2001),  (technical co-sponsored by IEEE)

Malta, September 1-6, 2001
NEW DOLMEN RESORT HOTEL (Luxurious Conference Canter and Casino)
http://www.worldses.org/wses/conferences/malta

These unique four conferences will take place in the exquisit, fascinating
and historic
island of MALTA, in September 1-6, 2001

A prolongation was given, after several requests from WSES and IEEE members
and volunteers:
DEADLINE FOR PAPER SUBMISSION: JUNE 30, 2001.
NOTIFICATION OF ACCEPTANCE/REJECTION: One month after the submission of
your paper (maximum)
(we can inform you the recommendation of the reviewers 30 days after your
submission!)

Also, if you would like, we could send an official letter to you
(via regular mail) in order to find possible financial support
for your trip from your department (as Invited Lecturer)

Also, if you want to organize a Session, -ATTENTION: in this case your name
will be
mentioned in the proceedings as Associate Editor-, please, collect and
review at
least 8-10 papers and then send them to us.

Of course, you could send me now the title of your paper

ALL THE ACCEPTED PAPERS will be published:
1)in the CD-ROM Proceedings (with Search Facilities and Page Numbering)
as well as
2)in the Electrical and Computer Engineering International Reference
Book Series of WSES PRESS as Post-Conference Books (Hard cover, velvet
paper, international circulation).
These will be different International Editions (with different ISBN).
This material will be ready at the opening of the Multiconference and
will be distributed to the participants.

Also SPECIAL ISSUES have been scheduled for the journals : (These
special issues will contain only selected papers, not all the papers)

INTERNATIONAL JOURNAL OF COMPUTER RESEARCH (IJCR)
INFORMATICA
INTERNATIONAL JOURNAL OF COMMUNICATIONS AND NETWORKING
NEURAL NETWORKS WORLD

INTERNATIONAL SCIENTIFIC COMMITTEE
(with many IEEE Fellow Members)
Find in the WEB.

TOPICS: See the web

More informations: Send a message to malta2001@worldses.org

About MALTA ISLAND ("The Island of Knights")
Malta, a Jewel in the Mediterranean. With it's warm summers and mild
winters, surrounded by blue sea, Malta is indead a beautiful country. It
has a rich history, holding a strategic position in the middle of the
Mediterranean Sea. Malta, the beautiful island of the Knights, is famous
for its sun, sea, and sand. An ideal vacation spot fascinating, not only
for its natural beauty, but also for its archeological treasures. Malta
is the island where the Apostle Paul was shipwrecked off in A.D 60 what
is today known as St. Paul's Bay, place where the conference will be
held. Malta is also well known for its hospitality to visitors. The blue
sea, warm sunshine, and rich archaeological heritage dating back over
seven millennia provide an interesting backdrop to the conference. The
Maltese Archipelago, consisting of Malta, Gozo, Comino and two other
uninhabited islands, is situated almost at the center of the
Mediterranean. Its geographical position has always attracted the
attention of maritime powers, thus giving it a wealth of history out of
proportion to its diminutive size. The first known inhabitants were
Sicilian Neolithic farmers (c. 4000 B.C.). Romans, Greeks (Byzantines),
Arabs, Spanish, Germans, French, English has the island under their
occupation in various periods of History. The epic defense of the
Islands during World War II is well remembered, and it was for this
reason that this small nation was awarded the George Cross. The Islands
achieved independence in 1964 and in 1974 became a Republic within the
British Commonwealth. Modern Malta combines the cosmopolitan character
of a modern island with the picturesque architecture of medieval
buildings and decorative shops.


HERE IS THE STATISTICS FROM the previous WSES Conference
**********
STATISTICS: The previous  Conference was a great
success.
Here is the statistics

from the e-messages that we received.
ORGANIZATION: "Excellent" 92.4%, "Very Good" 0.8%
SCIENTIFIC PART: "Excellent" 95%, "Very Good" 5%,
PROCEEDINGS: "Excellent" 98%, "Very Good" 1%, "Good" 1%
POST-CONFERENCE BOOKS: "Excellent" 100%,
SOCIAL PART: "Excellent" 96.4%, "Very Good" 2.7%
BANQUET: "Excellent" 100%

<Please, if you have a friend interested
in the above topics please,
forward this message>

Regards

K.Papanikolaou
(on behalf of the Chair of the Organ.Committee)
Contact me at: malta2001@worldses.org

2) HOW TO PROMOTE AN ANNOUNCEMENT FOR A NEW FACULTY, POST-DOCTORAL,
RESEARCH POSITION
   BY THIS NEWS LETTER
(new announcements for new faculty, post-doctoral, research positions
related to
WSES MIV NEWSLETTER (Multimedia, Internet, Video, Signal and Image
Processing,
Robotics, Distance Learning, Communications)
must be sent via our server: http://www.worldses.org
the Subject must be "New Announcement")
THESE NEW FACULTY POST-DOCTORAL, RESEARCH POSITIONS WILL BE SENT TO YOU IN
THE NEXT E-RELEASE OF
THIS NEWS LETTER

END---------------------------------------------------------------------

This News Letter informs you for New Faculty Positions,
for Conference Announcements, Workshop Announcements, Short Courses
Announcements, Announcements for New Books and Journals
Announcements for Special Issues in Journals, Announcements for Special
Sessions in Conferences, for Post-Doctoral Positions
and other relevant topics.

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    Forward this News letter to your friends and colleagues encouraging
them to
    subscribe via:  http://www.worldses.org (completing a relevant web
form).

    HOW TO UNSUBSCRIBE (1st method)
    To unsubscribe, send us a message to:
    remove_miv@worldses.org
    INCLUDING your address or addresses from which you received this
    NEWS LETTER! (The address or addresses in the To: of the present
message). No matter
    from which address you will send the message. Just tell us the address
that you
    have seen in the To: of our message and we will remove it. Please, send
it to
    remove_miv@worldses.org

    HOW TO UNSUBSCRIBE (2nd method)
    You can also unsubscribe visiting
    http://www.worldses.org/wses/unsubscribe.htm
    select WSES MIV NEWSLETTER
    and follow the instructions
----------------------------------------------------------------------

## 32. [ss] RE: 802.11, a versus b

From: Brett Glass <brett@lariat.org>
Date: Thu, 17 May 2001 19:28:03 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-13340-2001.05.17-20.53.46--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 04:46 AM 5/14/2001, Kenneth H. Sinclair wrote:

>There's not much of that info available yet, since the application
>developers and OEMs don't really have 802.11a parts to work with.

It's unclear when they'll come out. Radiata was bought by Cisco, and
may therefore create chips for Cisco products only. Atheros is
initially announcing parts that won't work at the high end of the
spectrum -- the part that's best suited for outdoor applications
because it allows a reasonable EIRP. I'm thinking that HiPerLAN
may be a better choice.

--Brett

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

# June 2001

Original source file: ss.0106
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/ss.0106

## 1. [ss] Hello

From: "Steven Scott" <dci_communications@hotmail.com>
Date: Wed, 06 Jun 2001 11:37:09 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-17092-2001.06.06-13.57.23--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi
I am a newbie to this list.
My name is Steve callsign KD7KDC
I am located in Deer Park, WA which
is about 20 miles north of Spokane, WA
I am a Highschool Sudent Junior this year.
Currently I am envolved in Spokane County
ARES/RACES group.
The reason that I joined this list is to try
to get something going in the way of spread
spectrum tecnology for the spokane city county
emergency communications group on the primary
basis and others in secondary means.
I am also interested in the Motorola Workstation
520 (MDT).
Thats all for now.
73
Steve
FCC Amateur Radio Licensee KD7KDC
Spokane County Sheriff E816

_____
Get your FREE download of MSN Explorer at http://explorer.msn.com

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 2. [ss] Seeking Persoft Intersect wireless bridge(s)

From: Brett Glass <brett@lariat.org>
Date: Tue, 12 Jun 2001 00:38:08 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-18134-2001.06.12-01.58.05--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

LARIAT is seeking one or more Persoft Intersect wireless bridges -- the
original DSSS units that ran on the 900 MHz band using pre-IEEE 802.11
WaveLAN. They're built from Intel OEM 386SX PCs with no hard disk -- the
embedded software loads from a floppy -- and have a Persoft Intersect
logo on the front. The wireless LAN cards in these units are often marked
with the name NCR, since they were developed at Dutch facilities
originally owned by NCR before Lucent acquired them.

Most of these old units are probably sitting in closets gathering dust,
since they're not as fast as 802.11b and operate on a band that's
monopolized in many cities by the Metricom Ricochet system. But we're
still running some and are looking for spares. If you have one or more --
working or broken with usable parts -- please e-mail.

--Brett Glass

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 3. [ss] Re: Seeking Persoft Intersect wireless bridge(s)

From: "Chris Anderson" <Chris_Anderson@grayhill.com>
Date: Tue, 12 Jun 2001 09:06:54 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-18168-2001.06.12-09.32.10--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I swear I've seen one of these around but I just looked in the cabnets and all I
have are a few Proxim's and an RDC. Same form factor different system.

_____
Chris Anderson - KA9UQO
RF Design Engineer
Grayhill Inc.
Phone: (708) 482-2312
Fax: (708) 354-2820

Brett Glass <brett@lariat.org> on 06/12/2001 01:38:08 AM

Please respond to "TAPR Spread Spectrum Special Interest Group"
<ss@lists.tapr.org>

To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
cc: (bcc: Chris Anderson/NPD/GHI)

Subject: [ss] Seeking Persoft Intersect wireless bridge(s)

LARIAT is seeking one or more Persoft Intersect wireless bridges -- the
original DSSS units that ran on the 900 MHz band using pre-IEEE 802.11
WaveLAN. They're built from Intel OEM 386SX PCs with no hard disk -- the
embedded software loads from a floppy -- and have a Persoft Intersect
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originally owned by NCR before Lucent acquired them.

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monopolized in many cities by the Metricom Ricochet system. But we're
still running some and are looking for spares. If you have one or more --
working or broken with usable parts -- please e-mail.

--Brett Glass

---
You are currently subscribed to ss as: chris_anderson@grayhill.com
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 4. [ss] how SS works!

From: "Brijesh Yadav" <numerix@rediffmail.com>
Date: 14 Jun 2001 17:50:16 -0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-18508-2001.06.14-13.08.11--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,
My Self Brijesh,
i m from Bombay(India)
& intrested in like 2 know how the SS works.
how the 2 points can be connected to for internet access
using radio ?
is it possible to connect more then two sites by using the single centerlised antenna?
this r the few question wht i hv in my mind

if ne1 knows it
so plz give me reply

bye
Brijesh Yadav

_____
Chat with your friends as soon as they come online. Get Rediff Bol at
http://bol.rediff.com

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 5. Your confirmation is needed (ok 6751)

From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Sat, 16 Jun 2001 02:54:29 -0500
To: lyris.ss@tapr.org
Message-ID: <LYR6751-18814-2001.06.16-02.54.29--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Your email address 'lyris.ss@tapr.org' has been submitted to be
unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be
unsubscribed.

To confirm that you do want to unsubscribe, reply to this message so that
the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to
unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the
mailing list.

---

Return-Path: <angelica@worldses.org>
Received: from worldses.org ([194.219.139.130]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Sat, 16 Jun 2001 02:53:37 -0500
From: "Mrs. Angeliki Protopappa" <angelica@worldses.org>
To: ss-request
Subject:
Sender: "Mrs. Angeliki Protopappa" <angelica@worldses.org>
Mime-Version: 1.0
Content-Type: text/plain; charset="ISO-8859-1"
Date: Sat, 16 Jun 2001 10:35:20 +0300
Content-Transfer-Encoding: 8bit

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <angelica@worldses.org>
Received: from worldses.org ([194.219.139.130]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Sat, 16 Jun 2001 02:53:37 -0500
From: "Mrs. Angeliki Protopappa" <angelica@worldses.org>
To: <leave-ss-6751t@lists.tapr.org>
Subject: WSES/IEEE techn.Co-Sponsored RODLICS, MIV, SSIP, SIM 2001, Sept.1-6, Malta
Sender: "Mrs. Angeliki Protopappa" <angelica@worldses.org>
Mime-Version: 1.0
Content-Type: text/plain; charset="ISO-8859-1"
Date: Sat, 16 Jun 2001 10:35:20 +0300
Content-Transfer-Encoding: 8bit

   We would like to remind that the deadline for paper submission for
   WSES MIV'01, SSIP'01, SIM'01, RODLICS'01 in Malta (September 1-6, 2001).
   Technical Co-Sponsored by IEEE RA Society

expires very soom (June 30, 2001!)
(see below)

****** WSES Intern.Conf. on: MULTIMEDIA, INTERNET, VIDEO TECHNOLOGIES 2001 (MIV 2001), Malta, Sept.1-6, 2001
Technical Co-Sponsored by IEEE RA Society
http://www.worldses.org/wses/conferences/malta/miv

****** WSES Intern.Conf. on: SPEECH, SIGNAL AND IMAGE PROCESSING 2001 (SSIP 2001), Malta, Sept.1-6, 2001
Technical Co-Sponsored by IEEE RA Society
http://www.worldses.org/wses/conferences/malta/ssip

****** WSES Intern.Conf. on: SIMULATION 2001 (SIM 2001), Malta, Sept.1-6, 2001
Technical Co-Sponsored by IEEE RA Society
http://www.worldses.org/wses/conferences/malta/sim

****** WSES Intern.Conf. on: ROBOTICS, DISTANCE LEARNING AND INTELLIGENT COMMUNICATION SYSTEMS 2001 (RODLICS 2001), Malta, Sept.1-6, 2001
Technical Co-Sponsored by IEEE RA Society
http://www.worldses.org/wses/conferences/malta/rodlics

All the Conferences will be being held in the NEW DOLMEN HOTEL: Conference Center - Casino.
(which is Superior 4-Star Resort Hotel) and will offer to the participants
Excellent proceedings (with their papers),
Excellent luxurious Post-Conference books by WSES Press International Editions
with their papers (different edition than the proceedings with different ISBN,
hard cover, velvet paper, etc), possibility for journal publication,
lectures by distinguished and famous scientists (see the web, IEEE Fellow Members
and other important personalities),
and of course social and cultural activities of high academical standards!
http://www.worldses.org/wses/conferences/malta

All the accepted papers will be published in
1) the Proceedings and
2) WSES-Press International Post-Conference Luxurious Editions
and maybe 3) In some of collaborating journals after further review

TOPICS: See the Web

INTERNATIONAL SCIENTIFIC COMMITTEE: See the Web

FORMAT OF YOUR PAPER: See the Web

INSTRUCTIONS FOR PAPER SUBMISSION: See the Web

LOCATION: Malta, a Jewel in the Mediterranean.
With it's warm summers and mild winters, surrounded by blue sea,
Malta is indead a beautiful country. It has a rich history,
holding a strategic position in the middle of the Mediterranean Sea.
Malta, the beautiful island of the Knights, is famous for its sun, sea, and sand.
An ideal vacation spot fascinating, not only for its natural beauty,
but also for its archeological treasures.

Highlights of Malta (None place in the world have so many highlights in a small geographical area):
* Cathedral Church of St.John in Valetta (Capital of Malta)
* Magistrates' Palace in Valetta
* Knights' Monastery in Valetta
* "Beheading of St.John"
* Hanging Gardens of Baracca
* Knights Museam
* Mdina (Old Capital of Malta) Wall
* Cathedral Church of St.Paul in Mdina
* Gardens of St.Antonio
* Catacombs of St.Paul
* Craft Village: construction of blowing glass
* Craft Village: silver handwork

* Cazino of Sliema
* Blue (Azure) Cave
* Marshaslox Port
* Gozo: The Island of Calypso
* Gozo: Royal Church "Ta Pinou"
* Gozo: Cathedral Chitadel
* Gozo: Prehistorical Temples of Gandigia

Best Regards

Angeliki Protopappa

## 6. [ss] Antenna Polarization...

From: Francis See <francisc@pworld.net.ph>
Date: Sun, 24 Jun 2001 22:15:03 +0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-20228-2001.06.24-09.45.12--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,

I've noticed that most WLAN PC Cards antennas are layout flat in a
horizontal manner (I assume this is horizontally polarized antenna). While
2.4 GHz access points having two antennas are normally installed in a
vertical polarization layout (even on brochures).

Shouldn't the AP antennas be installed in a horizontal format too?

Will performance improve if you put one antenna in horizontal and the other
vertical to reduce multi-path problems on DSSS?

Francis, DU3HF

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 7. [ss] RE: Antenna Polarization...

From: "Jason A. Beens" <jbeens@sensetechnologies.com>
Date: Sun, 24 Jun 2001 17:45:09 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-20292-2001.06.24-18.03.31--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The antenna polarization can be dependant on the antenna design. There
are breeds of antenna that exhibit large amounts of cross polarization,
and can operate essentially as a vertical and horizontal element
simultaneously. Typically these aren't the most efficient antennas, but
they are capable of receiving energy in most directions and
orientations. One such antenna is the Planar Inverted-F Antenna (or
PIFA). The IEEE antennas and propagation society has a number of
articles on this type of element. You might want to check them out.

Hope that helps,

Jason Beens
Director of Research and Development
Sense Technologies, L.L.C.
jbeens@sensetechnologies.com
Phone (210) 690 3500
Fax (210) 690 3877

-----Original Message-----
From: bounce-ss-22185@lists.tapr.org
[mailto:bounce-ss-22185@lists.tapr.org]On Behalf Of Francis See
Sent: Sunday, June 24, 2001 9:15 AM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] Antenna Polarization...

Hi,

I've noticed that most WLAN PC Cards antennas are layout flat in a
horizontal manner (I assume this is horizontally polarized antenna).
While
2.4 GHz access points having two antennas are normally installed in a

vertical polarization layout (even on brochures).

Shouldn't the AP antennas be installed in a horizontal format too?

Will performance improve if you put one antenna in horizontal and the
other
vertical to reduce multi-path problems on DSSS?

Francis, DU3HF

---
You are currently subscribed to ss as: jbeens@sensetechnologies.com
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 8. [ss] Re: Antenna Polarization...

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Mon, 25 Jun 2001 17:16:48 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: netsig@lists.tapr.org
Message-ID: <LYR6751-20433-2001.06.25-17.37.08--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>Shouldn't the AP antennas be installed in a horizontal format too?

As a general rule of thumb: Yes  but if your only trying to cover a
short distance then it probably won't make a big difference.

>Will performance improve if you put one antenna in horizontal and
>the other vertical to reduce multi-path problems on DSSS?

No. See the excerpt below from our online documentation:
(http://wireless.gbppr.org)

Signal Polarity

The antennas will also have to have the same RF signal polarity.  The
polarity of the signal will depend on the direction the actual antenna
is positioned.  If it's up/down then the polarity is vertical, if it's
left/right then it's horizontal, if it's diagonal (45° usually), then
you'll have diagonal polarization.  By not having the same polarity on
your network's antennas, you can receive a 20 dB loss of signal
strength.  This is an enormous loss, but can also be very useful.  By
changing antenna polarization you can help eliminate certain types of
radio interference, or allow many antennas in one location.  Horizontal
antenna polarization at microwave frequencies will generally provide
less multipath and may also provide lower path loss in non line-of-sight
situations, but you should always experiment with different
polarizations.

In addition I recommend reading:
VHF/UHF/Microwave Radio Propagation: A Primer for Digital Experimenters
http://hydra.carleton.ca/articles/ve3jf-dcc97.html

Steve, KB9MWR
High Speed Packet Radio Using Part 15 Wireless Ethernet Cards:
http://www.qsl.net/kb9mwr/projects/wireless/plan.html

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 9. [ss] Re: ss digest: June 24, 2001

From: Jim Ussailis <ussailis@equinox.shaysnet.com>
Date: Mon, 25 Jun 2001 22:41:42 -0400 (EDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: ss digest recipients <ss@lists.tapr.org>
Message-ID: <LYR6751-20462-2001.06.25-22.00.12--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The only polarization that does anything for multipath is circular. In
this case, the antennas must be of opposite polarization on each end of
the link.

For all odd number of bounces, the signal is cross-polarized to the
antenna. Now, that is the theory. The fact is most bounces are oblique,
and contain large amounts of cross-polarization. So circular pol does
something for odd bounce multipath, but it is not a panacea.

If you want to play with CP, use a helix. They are broadband and very
forgiving. Look up the design info in "Antennas" by Kraus. (W8JK). He
invented the thing.

Incidently, almost all antennas are only a pure polarization on biresught
axis. Off-axis there is a lot of cross-pol. It is very difficult to make
a highly uniform polarized antenna.

Jim Ussailis, W1EQO / VE1EQO


On Mon, 25 Jun 2001, TAPR Spread Spectrum Special Interest Group digest wrote:

> TAPR Spread Spectrum Special Interest Group Digest for Sunday, June 24, 2001.
>
> 1. Antenna Polarization...
> 2. RE: Antenna Polarization...
>
> ---------------------------------------------------------------------
>
> Subject: Antenna Polarization...
> From: Francis See <francisc@pworld.net.ph>
> Date: Sun, 24 Jun 2001 22:15:03 +0800
> X-Message-Number: 1
>
> Hi,
>
> I've noticed that most WLAN PC Cards antennas are layout flat in a
> horizontal manner (I assume this is horizontally polarized antenna).  While
> 2.4 GHz access points having two antennas are normally installed in a
> vertical polarization layout (even on brochures).
>
> Shouldn't the AP antennas be installed in a horizontal format too?
>
> Will performance improve if you put one antenna in horizontal and the other
> vertical to reduce multi-path problems on DSSS?
>
>
> Francis, DU3HF
>
>
> ---------------------------------------------------------------------
>
> Subject: RE: Antenna Polarization...
> From: "Jason A. Beens" <jbeens@sensetechnologies.com>
> Date: Sun, 24 Jun 2001 17:45:09 -0500
> X-Message-Number: 2
>
> The antenna polarization can be dependant on the antenna design.  There
> are breeds of antenna that exhibit large amounts of cross polarization,
> and can operate essentially as a vertical and horizontal element
> simultaneously.  Typically these aren't the most efficient antennas, but
> they are capable of receiving energy in most directions and
> orientations.   One such antenna is the Planar Inverted-F Antenna (or
> PIFA).  The IEEE antennas and propagation society has a number of
> articles on this type of element.  You might want to check them out. =20
>
> Hope that helps,
>
>
> Jason Beens
> Director of Research and Development
> Sense Technologies, L.L.C.
> jbeens@sensetechnologies.com
> Phone (210) 690 3500
> Fax (210) 690 3877
>
> -----Original Message-----
> From: bounce-ss-22185@lists.tapr.org
> [mailto:bounce-ss-22185@lists.tapr.org]On Behalf Of Francis See

> Sent: Sunday, June 24, 2001 9:15 AM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Antenna Polarization...
>
> Hi,
>
> I've noticed that most WLAN PC Cards antennas are layout flat in a
> horizontal manner (I assume this is horizontally polarized antenna).
> While
> 2.4 GHz access points having two antennas are normally installed in a
> vertical polarization layout (even on brochures).
>
> Shouldn't the AP antennas be installed in a horizontal format too?
>
> Will performance improve if you put one antenna in horizontal and the
> other
> vertical to reduce multi-path problems on DSSS?
>
>
> Francis, DU3HF
>
>
> ---
> You are currently subscribed to ss as: jbeens@sensetechnologies.com
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>
>
>
> ---
>
> END OF DIGEST
>
> ---
> You are currently subscribed to ss as: ussailis@shaysnet.com
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 10. [ss] SS, Ricochet, etc

From: Gene Mitchell <genem@wwc.com>
Date: Tue, 26 Jun 2001 15:16:53 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-20590-2001.06.26-14.35.06--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I am new to this sig, or any sig for that matter. I am a ham interested in
spread spectrum. I would love to see more hams using it. I am not an engineer
so I would have to buy or build a kit.

I read that TAPR had a project with SS but there seems to be no up to date
info on what's happening with the project. Someone told me the project is
dead.
Is that true? I hope not!

I use Ricochet in my business (902-928mhz, spread spectrum) and find it
extremely good as well as fascinating.

There are rumors that Ricochet may not stay in business due to lack of
funding. If that is the case, there might be some commercial units to play
with.

I have taken the Ricochet modem home and my home is out of the planned
area by 1.5 miles but find I can use it from upstairs and at a window. ( I live
on a hill).

Anyone else using Ricochet?

Gene K3DSM   k3dsm@arrl.net


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 11. [ss] Re: SS, Ricochet, etc

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Tue, 26 Jun 2001 16:35:43 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: netsig@lists.tapr.org
Message-ID: <LYR6751-20626-2001.06.26-16.56.04--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>I am new to this sig, or any sig for that matter. I am a ham
>interested in spread spectrum. I would love to see more hams
>using it. I am not an engineer so I would have to buy or build

I would love to see more hams use it as well, as I see it as
a potential re-birth for packet radio.  I can think of several
hams who have adapted other commerical Part 15 radio ethernet
devices to amateur use, besides our group here in Green Bay.

>a kit.  I read that TAPR had a project with SS but there seems
>to be no up to date info on what's happening with the project.
>Someone told me the project is dead. Is that true? I hope not!

Could be dead or in major limbo (again).  I noticed TAPR has
several projects going, DSP, APRS :(, PIC stuff, ect, and it
seems after then make a little progress on one, they switch and
focus on a different one.  So if it's in limbo again, they are
probably working on some other project right now.

TAPR's 900 MHz FHSS radio will probably resemble the Ricochet
radio in many ways. I found the TAPR FHSS radio plans at:
http://tprs.org/publications/qr_arch/Aug97.PDF  and part 2:
http://tprs.org/publications/qr_arch/Sept97.PDF
(The plans call for a 1 watt, 128 Kbps throughput, 900
MHz FHSS unit with an expected 20 mile coverage area)

The last know update was late Jan 2001 see:
http://www.tapr.org/tapr/html/fhss.013001.html

>I use Ricochet in my business (902-928mhz, spread spectrum)
>and find it extremely good as well as fascinating.  There are
>rumors that Ricochet may not stay in business due to lack of
>funding. If that is the case, there might be some commercial
>units to play with.

Let me know if you hear anymore about this.
Sounds like it would be neat to play with. I'd be worried
about what they would go for and configuring them for ham use.

>I have taken the Ricochet modem home and my home is out of
>the planned area by 1.5 miles but find I can use it from
>upstairs and at a window. (I live on a hill).
>Anyone else using Ricochet?
>Gene K3DSM k3dsm@arrl.net

We don't have any Ricochet coverage over here so the 900 MHz
band is fairly quite over here.  And where there is Ricochet
coverage many hams complain that the 900 MHz band is trashed.
For those hams, I suggest that you start using the band, and
they will have to leave as Part 15 has no real rights.

Steve Lampereur, KB9MWR
High Speed Packet Radio Using Part 15 Wireless Ethernet Cards:
http://www.qsl.net/kb9mwr/projects/wireless/plan.html

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 12. [ss] Re: SS, Ricochet, etc

From: Jeff King <jeff@aerodata.net>
Date: Tue, 26 Jun 2001 18:12:03 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: netsig@lists.tapr.org
Message-ID: <LYR6751-20641-2001.06.26-17.31.41--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve Lampereur wrote:
>

> TAPR's 900 MHz FHSS radio..

>
> The last know update was late Jan 2001 see:
> http://www.tapr.org/tapr/html/fhss.013001.html

The Texas Packet Radio Society gets updates ahead of
TAPR, here is one for May 2001:

http://www.tprs.org/publications/qr_arch/MAY01a.PDF

And the root page for the reports:

http://www.tprs.org/publications/pubs.htm

-Jeff

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 13. [ss] Re: SS, Ricochet, etc

From: Jeff King <jeff@aerodata.net>
Date: Tue, 26 Jun 2001 18:22:47 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: netsig@lists.tapr.org
Message-ID: <LYR6751-20644-2001.06.26-17.41.50--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve Lampereur wrote:

> We don't have any Ricochet coverage over here so the 900 MHz
> band is fairly quite over here.  And where there is Ricochet
> coverage many hams complain that the 900 MHz band is trashed.
> For those hams, I suggest that you start using the band, and
> they will have to leave as Part 15 has no real rights.

I don't want to start a juhad here, but in practice, I don't think it
is practical. How would you encourage Metricom (other then bankruptcy) to vacate
900mhz in a deployed urban area? Or your neighbors 900mhz phone? Heck,
the ARRL and Metricom worked  hand in hand trying to give little reason
for hams to use off the shelf spread spectrum gear (i.e. automatic power control).
It is no suprize it hasn't taken off.

Don't get me wrong, I'm all for encouraging spread spectrum use, but I
see little advantage to operating under part 97, at least if I'm going to
be using off the shelf SS gear, of which I don't have access to the firmware.

> Steve Lampereur, KB9MWR
> High Speed Packet Radio Using Part 15 Wireless Ethernet Cards:
> http://www.qsl.net/kb9mwr/projects/wireless/plan.html

BTW, you site is regularly mentioned on the wireless ISP (WISP) list. This is
a mailing list for Part 15 experimenters and ISP resellers. Good job.


-Jeff

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 14. [ss] Re: SS, Ricochet, etc

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Tue, 26 Jun 2001 18:44:56 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-20652-2001.06.26-19.05.18--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Your right there is little chance of bumping off something like
Metricom from 900 MHz.  If we would have been using the 900 & 2.4
bands to begin with they probably wouldn't have been allocated for
ISM as well, and the ARRL probbably would of put up a stink about
the automatic power bologna.  Personally I see no "real" difference
between opperating part 97 & part 15 on these bands.  The only
advantage is the ability to run more power if you need it in the
first place.  Which can come in handy if you have alot of
interference issues to overcome (especially for multipoint links)

My thoughts are of hams can make further part 15 opperation on
these bands difficult as a result of their (somewhat) higher power
co-existing network, this is a step in the right direction to
ever so slowly reclaiming the band(s).

Also I don't think we will ever see a "part 97" wireless ethernet
type of card operating in "our portion of the band" (unshared with
ISM) unless we start showing interest and start using what's out there
on the shared bands.

When trying to promote the use of wireless ethernet to hams the
words "Part 97 & Amateur Radio" seems to draw more attention and is
probably more comforting to some.

[Don't confuse me for someone else Jeff.. Like I said I see no "real"
difference between part 15 & 97 opperation.  I'm still that 22 yr old
who has lost most all interest in traditional amateur radio.  I
really could care less what other hams do.]

Your last couple lines confuse me.  You make "off the shelf SS gear"
sound like a bad thing.  What is the difference between "off the shelf
SS gear" and ?? TAPR's 900 MHz radio?

>I don't want to start a juhad here, but in practice, I don't think it
>is practical. How would you encourage Metricom (other then bankruptcy)
>to vacate
>900mhz in a deployed urban area? Or your neighbors 900mhz phone? Heck,
>the ARRL and Metricom worked hand in hand trying to give little reason
>for hams to use off the shelf spread spectrum gear (i.e. automatic power
>control).
>It is no suprize it hasn't taken off.
>Don't get me wrong, I'm all for encouraging spread spectrum use, but I
>see little advantage to operating under part 97, at least if I'm going
>to
>be using off the shelf SS gear, of which I don't have access to the
>firmware.

[Maybe someone should develop a high power ( non-SS)sweeping wideband
umm.. "propagation beacon" for these shared bands.  :) ]

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 15. [ss] Re: SS, Ricochet, etc

From: Jeff King <jeff@aerodata.net>
Date: Tue, 26 Jun 2001 20:26:18 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-20653-2001.06.26-19.45.20--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve Lampereur wrote:

> Personally I see no "real" difference
> between opperating part 97 & part 15 on these bands.

Freedom of speech, less legal liability, ability to recoup costs and even
 make a profit are the advantages of Part 15. But your right,
other then that there are no real differences.

> The only
> advantage is the ability to run more power if you need it in the
> first place.

How can you do that? The limit on both part 97 and part 15 is 1 watt
unless you implement automatic power control on the part 97 equipment.
This even applies with point to point links. And how do you apply
automatic power control to a piece of Part 15 equipment that you don't
have access to the firmware source?

>  Which can come in handy if you have alot of
> interference issues to overcome (especially for multipoint links)

OK, well in this case, lets look at what we can do with Part 15 vs.
Part 97 (without automatic power control). With part 15, if we are
doing a 2.4ghz point to point link, our ERP is limited to 36dBm unless

we reduce are transmitter power. For every 1db drop of TX power, we are
allowed a 3 db increase in antenna gain.

So, with our standard 100mw 2.4ghz WLAN card, we have 20dbm of TX power,
which puts us 10db under the 1 watt limit. So, and correct me if I am
wrong, but that would allow us a antenna with a gain of 30db, which would
be one big dish. That would give us a ERP of 50dBm, which is 100 watts.
With this same antenna, under part 97, we could run 30dBm into it, giving
use a ERP of 60dBm. Only 10 db more then that 100 watt ERP (1000 watt ERP).

But you said multipoint, ok, then part 15 has less of a advantage as there
is a hard 36dBm erp limit. So, best we can get is 36dBm.

With our ham gear, we can run 30dbm out, and couple this with the highest
gain omni antenna I can find (the Comets are around 12-14dbi) we end up with,
at best, a ERP of 44dBm, which is only 8 db more then the Part 15 solution.

That 8 db is a bit too expensive for me.

> My thoughts are of hams can make further part 15 opperation on
> these bands difficult as a result of their (somewhat) higher power
> co-existing network, this is a step in the right direction to
> ever so slowly reclaiming the band(s).

Think paradigm shift, not reclaiming the ISM bands. The only way they will
be "reclaimed", is if non licensed part 15 hackers decide their is a
advantage to having a ham license. Someone that is hacking unix, playing
with networks, or playing with microwaves, is not that same kind of person
your going to find hanging on a 2 meter repeater. Not cut towards them, but
we have to face reality. I'm not holding my breath here, but if you want to
make a marketing plan, you have to consider your audience.... the people
you are selling to. You sell ice cubes to people in the desert, not Eskimos.

> When trying to promote the use of wireless ethernet to hams the
> words "Part 97 & Amateur Radio" seems to draw more attention and is
> probably more comforting to some.

Right, they think it is another mode. I went down this path 10 years ago
promoting NOS. It is a waste of time to 90% of them. You would have alot
better luck going to computer clubs, if your goal is to attract new blood
that can make use of the bands. Not being argumentative here, just being
blunt with you.

> [Don't confuse me for someone else Jeff.. Like I said I see no "real"
> difference between part 15 & 97 opperation.  I'm still that 22 yr old
> who has lost most all interest in traditional amateur radio.  I
> really could care less what other hams do.]

I would *never* confuse you with anyone else. I have the highest respect
for you, you can speak your mind, and you go out and do things. I wasn't
kidding about the references to your web page on the WISP lists. Here is
the list address:   isp-wireless@isp-wireless.com

> Your last couple lines confuse me.  You make "off the shelf SS gear"
> sound like a bad thing.  What is the difference between "off the shelf
> SS gear" and ?? TAPR's 900 MHz radio?

One exists, and one doesn't, for one. And the "off the shelf" gear I am
referring to was the Part 15 stuff. Certainly not a bad thing, but most
(all?) part 15 gear cannot be adapted to the subtleties of Part 97, which
requires automatic power control for > 1 watt.

I actually think there is a significant commercial market for the concept
of the TAPR SS radio. On the WISP lists, we keep having the BreezeCom's,
Teletronics, Lucent and Raylink push their 2.4ghz stuff for the CPE (customer
premise equipment). Yet, as you know, 900mhz penetrates much better then
2.4ghz, and most rural consumers would be happy to get a 24/7 128-256kbaud
line. There really is a problem with high speed internet in rural areas, that in
my opinion would be much better addressed by a decent 900mhz FH radio.

Now, the only decent 900mhz radio that exists is the FreeWave, and it is to
expensive, and in any case, is not tcp/ip friendly.

> [Maybe someone should develop a high power ( non-SS)sweeping wideband
> umm.. "propagation beacon" for these shared bands.  :) ]

In all honesty, with the low process gains most WLAN cards exhibit, you would
not be much worse off doing it narrow band.

73

Jeff

P.S. A few things to say about the Ricochet, but I'll put them in another thread.

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You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 16. [ss] Re: SS, Ricochet, etc

From: John Koster <w9ddd@tapr.org>
Date: Tue, 26 Jun 2001 19:41:56 -0500 (CDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-20654-2001.06.26-20.02.13--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Tue, 26 Jun 2001, Steve Lampereur wrote:

> Your right there is little chance of bumping off something like
> Metricom from 900 MHz.  If we would have been using the 900 & 2.4
> bands to begin with they probably wouldn't have been allocated for
> ISM as well,

Actually 2.4 has been shared ever since we got the allocation (50 or so
years ago?).  Hams were secondary to military radar originally.  Getting
part of it as exclusive (or is the proper term primary?)  might be
considered a step up.  900 is a recent allocation (relatively speaking)
and as far as I can recall always has been a shared.  I think we got a
chance at it because others weren't using it heavily at the time, but I
wasn't paying that much attention at the time (raising teenagers).

In the distant past 10GHz was the only allocation where hams had it to
themselves.

John Koster, W9DDD
<w9ddd@tapr.org>

---
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## 17. [ss] Re: SS, Ricochet, etc

From: Jeff King <jeff@aerodata.net>
Date: Tue, 26 Jun 2001 21:02:12 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: netsig@lists.tapr.org
Message-ID: <LYR6751-20656-2001.06.26-20.21.16--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve Lampereur wrote:

> >I use Ricochet in my business (902-928mhz, spread spectrum)
> >and find it extremely good as well as fascinating.  There are
> >rumors that Ricochet may not stay in business due to lack of
> >funding. If that is the case, there might be some commercial
> >units to play with.
>
> Let me know if you hear anymore about this.
> Sounds like it would be neat to play with. I'd be worried
> about what they would go for and configuring them for ham use.

I suspect not much support from Metricomm, they even don't support
the hackers anymore, having pulled support for the STRIP driver.

http://www.mobial.com/software/strip.html
http://phobos.illtel.denver.co.us/~abelits/metricom/
http://mosquitonet.stanford.edu/software/strip.html

I'm not familar with the newer (128K) radios, but the older ones
where frequency hoppers. I suspect if we could get to the guts to
them, they would be fairly decent.

-Jeff

---
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## 18. [ss] Re: SS, Ricochet, etc

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Tue, 26 Jun 2001 20:55:44 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-20666-2001.06.26-21.16.05--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Jeff,

First before I forget thanks for the Ricochet info.. & I know about the
WISP stuff.

Part 97.311(d) :
>(d) The transmitter power must not exceed 100 W under any circumstances.
>    If more than 1 W is used,  automatic transmitter control shall limit
>    output power to that which is required for the communication.  This
>    shall be determined by the use of the ratio, measured at the receiver,
>    of the received energy per user data bit (Eb) to the sum of the
>    received power spectral densities of noise (N0) and co-channel
>    interference (I0).  Average transmitter power over 1 W shall be
>    automatically adjusted to maintain an Eb/(N0+I0) ratio of no more
>    than 23 dB at the intended receiver.

There have never been and ERP limits for amateur radio, that I know of.
(Like 1500 watts PEP not ERP)  Part 97.311 makes no reference to ERP,
PEP is implied by tht words "transmitter power". (instead of radiated
power) I could be wrong here, but thats how I see it.

So..

Part 97:
just under 1 watt PEP (or more with auto pwr ctrl) + your max antenna
gain

verses:

Part 15's
(which ever is greater:) 1 watt PEP / 4 watt EIRP limit

(I don't have calculator handy so I'm not goig to dive into calculating
the possible ERP for Part 97)

>How can you do that? The limit on both part 97 and part 15 is 1 watt
>unless you implement automatic power control on the part 97 equipment.
>This even applies with point to point links. And how do you apply
>automatic power control to a piece of Part 15 equipment that you don't
>have access to the firmware source?

True it would be hard but can be done with hardware in the amplifer
as I beleive HyperAmp and other do it..

>One exists, and one doesn't, for one. And the "off the shelf" gear I am
>referring to was the Part 15 stuff. Certainly not a bad thing, but most
>(all?) part 15 gear cannot be adapted to the subtleties of Part 97,
>which
>requires automatic power control for > 1 watt.

The only stuff that can't be easily adapted for ham use is 2.4 GHz,
FHSS stuff because the band plan dosen't match up.  And automatic
power control is only an issue for 1 watt or more PEP.  In which case
you need commerical amps likes I said before.

>Yet, as you know, 900mhz penetrates much better then 2.4ghz, and
>most rural consumers would be happy to get a 24/7 128-256kbaud
>line. There really is a problem with high speed internet in rural areas,
>that in my opinion would be much better addressed by a decent 900mhz
>FH radio.  Now, the only decent 900mhz radio that exists is the
>FreeWave, and it is to expensive, and in any case, is not tcp/ip
>friendly.

True, thats why I asked about an estimated cost for TAPR's 900 MHz
radio.. 900 MHz FHSS would be nice and I'm all for it.

As for trying to promote the use of wireless ethernet to hams.  I
realize for the most part it's a waste of time.  Most hams are
stubborn, and resist change.  My goal is not really to attract new
blood, but to try to advance our present technology.  If that ever
happens I think new blood will come forth by itself.  New modes take
years to catch on. (ex: SSB vs. AM)  I know there are few out there
probably lurking this list (waiting for the TAPR radio to come out),
who will (in the mean time) try adapting part 15 gear.  Those few hams
are the audience I seek not the old moldy guys on HF or the guys on 2
meters who can't put on a PL259.  If it's all the same to you I will
keep on trying till I'm sick of it and leave the hobby as there is
nothing left for me.

I urge anyone interested in adapting part 15 gear for part 97 to
check out the link below for legal implementation:

High Speed Amateur Packet Radfio Using Part 15 Wireless Ethernet Cards:
http://www.qsl.net/kb9mwr/projects/wireless/plan.html


---
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## 19. [ss] Re: SS, Ricochet, etc

From: Jeff King <jeff@aerodata.net>
Date: Tue, 26 Jun 2001 22:50:02 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-20675-2001.06.26-22.09.09--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve Lampereur wrote:

> Part 97:
> just under 1 watt PEP (or more with auto pwr ctrl) + your max antenna
> gain

> verses:

> Part 15's
> (which ever is greater:) 1 watt PEP / 4 watt EIRP limit

Yes, that is true for multi-point on 2.4ghz part 15. But for point to point you
can go much higher then a 4 watt EIRP (36dB). The rule is for every 1dB you
reduce TX power below 30dBm (at the antenna jack) you can increase antenna gain by
3dB. A real common setup is a 250mw pole top amp (about +24dBm) coupled with
a 24dBi gain Conifer. This gives you over 60 watts EIRP with not to expensive
of a setup.

So, if you are doing a point to point link, without automatic power control, I just
was stating there is no big technical advantage to part 97, and it was my personal
feelings the other negatives outweighed what little technical ones remained. With 60
watts EIRP, you can do alot.

Also, lets not forget this is not a CB vs. Ham radio argument. Whatever way you go,
your still going to be playing radio, and I doubt if you will be doing random CQ's
anytime soon. Each link will be well engineered ahead of time, and the service it is
operated under is secondary to the results. And this is the key, and the whole crux
of my "mode" argument. Someone who wants to operate a "mode" likely is not willing to
make the investment in time and money to be successful, or have the staying power. On the
other hand, a person with a goal (like a local highspeed wireless lan) will have the focus
and staying power to succeed.

> As for trying to promote the use of wireless ethernet to hams.  I
> realize for the most part it's a waste of time.

I hope I wasn't saying not to do it.... I just was suggesting to broaden your
horizons. One of the most interesting amateur radio/Spread Spectrum demos I ever
gave was at a Linux meeting. I was presenting the TAPR STA/Freewave deal at the
club, and quite few were going to buy in. One of the guys even wrote up a whole
networking plan.

> Most hams are stubborn, and resist change.

That describes 99% of the human race  ;-)

> My goal is not really to attract new
> blood, but to try to advance our present technology.

I know. But starting from ground zero, all things being equal, if your going to
be a evangelist, you need to chose a receptive audience that can recognize a need.
Selling bibles in Soviet Russia likely wouldn't have been a good business plan.

> If that ever
> happens I think new blood will come forth by itself.

It may already be... the 802.11b open networks we are hearing about in San Francisco
and New York may be the start here. In particular with mobile IP encapsulation. And
of course the recognition I mentioned you where getting on the WISP lists.

> Those few hams
> are the audience I seek not the old moldy guys on HF or the guys on 2
> meters who can't put on a PL259.  If it's all the same to you I will
> keep on trying till I'm sick of it and leave the hobby as there is
> nothing left for me.

Ha ha ha.... that reminds me of the time I was banned from a local clubs field
day for some of my opinions I had expressed, but I digress ;-)   Seriously though,
you have ham radio and then you have amateur radio. You don't have to participate in
ham radio to be a amateur radio operator. The FCC allows you to experiment with these
frequencies by granting you a license. It is even written in the rules as one purpose
of amateur radio. So don't give up. Like I said before, what you are doing is making
a impact, maybe not in ham radio, but most certainly with radio experimenters.

73

Jeff

> I urge anyone interested in adapting part 15 gear for part 97 to
> check out the link below for legal implementation:
>
> High Speed Amateur Packet Radfio Using Part 15 Wireless Ethernet Cards:
> http://www.qsl.net/kb9mwr/projects/wireless/plan.html

---
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## 20. [ss] Re: SS, Ricochet, etc

From: "Paul McInnish" <k4bet@cirronet.com>
Date: Wed, 27 Jun 2001 10:42:31 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-20740-2001.06.27-10.05.27--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

And will probably loose some of our "exclusive" rights unless we use it!

Best regards,

Paul McInnish - K4BET
Manager, Business Development
Cirronet, Inc. (formerly Digital Wireless)
5375 Oakbrook Parkway
Norcross, GA 30093, USA

Direct Phone: 678.684.2011
Fax: 678.684.2001
Cell Phone: 678.429.2124

Web site: http://www.cirronet.com

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----- Original Message -----
From: "John Koster" <w9ddd@tapr.org>
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Sent: Tuesday, June 26, 2001 8:41 PM
Subject: [ss] Re: SS, Ricochet, etc

:
: On Tue, 26 Jun 2001, Steve Lampereur wrote:
:
: > Your right there is little chance of bumping off something like
: > Metricom from 900 MHz.  If we would have been using the 900 & 2.4
: > bands to begin with they probably wouldn't have been allocated for
: > ISM as well,
:
: Actually 2.4 has been shared ever since we got the allocation (50 or so
: years ago?).  Hams were secondary to military radar originally.  Getting
: part of it as exclusive (or is the proper term primary?)  might be
: considered a step up.  900 is a recent allocation (relatively speaking)
: and as far as I can recall always has been a shared.  I think we got a
: chance at it because others weren't using it heavily at the time, but I
: wasn't paying that much attention at the time (raising teenagers).
:
: In the distant past 10GHz was the only allocation where hams had it to
: themselves.
:
:
: John Koster, W9DDD
: <w9ddd@tapr.org>
:
:
:
: ---
: You are currently subscribed to ss as: k4bet@digital-wireless.com
: To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
:

---
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## 21. [ss] SS,Amature Radio

From: "Chris Anderson" <Chris_Anderson@grayhill.com>
Date: Wed, 27 Jun 2001 09:44:11 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-20741-2001.06.27-10.10.19--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I'd like to add my voice to the Jeffs's there, don't give up. I haven't made a
contact for years but as I develop SS radios for a living I still hold out hope
AR can offer innovation in new areas.

BTW, a lot of the 2.4GHz radios will in fact tune down to the non part 15
2.390-2.4 segment of the Amature allocation. The WLAN cards should be easy to
mess with using the linux driver. Standalone radios like ours would be harder
but since I built it I know it'll tune down there. 8)

OH and

"Part 97:
just under 1 watt PEP (or more with auto pwr ctrl) + your max antenna
gain

verses:

Part 15's
(which ever is greater:) 1 watt PEP / 4 watt EIRP limit"

Well actually for part 15 it's RMS power. The "peak power" FCC speaks of in
15.247 is refering to when the radio is transmitting, as opposed to averaging
the power over time and presumably over multi-bursts. I had this particular
tidbit bite me so I had to learn it well. The 4W EIRP limit of course is
explicit. Also keep in mind that for part 15's the 1 watt can be specified any
wya you like. I could for instance see a radio with 100 feet of coax perm
attached or with a 15.203 compliant connector and have the 1W measured at the
end of the coax. This is allowed though no-body does it that I know of.

Chris Anderson
KA9UQO

---
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## 22. [ss] Re: SS,Amature Radio

From: Kerry Banke <kbanke@qualcomm.com>
Date: Wed, 27 Jun 2001 08:11:20 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-20743-2001.06.27-10.31.43--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I've been following the recent email on the reflector & woud like to consider taking a pair of cheap 2.4 GHz 802.11 SS radios and translate them to the 10 GHz Amateur band. What units are low cost and will provide an external antenna jack that I can use to connect to a transverter? Frequency doesn't matter as I can make the transverter match anything I want. I've seen the Syncbyair PCMCIA 2.4 GHz units on Ebay but don't know if thay have external antenna connections available or If they present any other special problems. Any input on this would be appreciated.

At 09:44 AM 6/27/01 -0500, Chris Anderson wrote:
>I'd like to add my voice to the Jeffs's there, don't give up. I haven't made a
>contact for years but as I develop SS radios for a living I still hold out
hope

---
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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 23. [ss] Re: SS,Amature Radio

From: "Paul McInnish" <k4bet@cirronet.com>
Date: Wed, 27 Jun 2001 11:21:29 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-20744-2001.06.27-10.39.20--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I agree with Chris...

Dog gone it, our radios will not tune down (actually they will, but firmware controlled and we are not going to let anyone have the code to modify the radio firmware). However, seeing as how ours are in the ISM band, you can use them legally! We have ALL the FCC, ETSI, Industry Canada & CE certifications!

Best regards,

Paul McInnish - K4BET
Manager, Business Development
Cirronet, Inc. (formerly Digital Wireless)
5375 Oakbrook Parkway
Norcross, GA 30093, USA

Direct Phone: 678.684.2011
Fax: 678.684.2001
Cell Phone: 678.429.2124

Web site: http://www.cirronet.com

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http://www.adobe.com/products/acrobat/readstep2.html

----- Original Message -----

From: "Chris Anderson" <Chris_Anderson@grayhill.com>
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Sent: Wednesday, June 27, 2001 10:44 AM
Subject: [ss] SS,Amature Radio

: I'd like to add my voice to the Jeffs's there, don't give up. I haven't made a
: contact for years but as I develop SS radios for a living I still hold out hope
: AR can offer innovation in new areas.
:
: BTW, a lot of the 2.4GHz radios will in fact tune down to the non part 15
: 2.390-2.4 segment of the Amature allocation. The WLAN cards should be easy to
: mess with using the linux driver. Standalone radios like ours would be harder
: but since I built it I know it'll tune down there. 8)
:
: OH and
:
: "Part 97:
: just under 1 watt PEP (or more with auto pwr ctrl) + your max antenna
: gain
:
: verses:
:
: Part 15's
: (which ever is greater:) 1 watt PEP / 4 watt EIRP limit"
:
: Well actually for part 15 it's RMS power. The "peak power" FCC speaks of in
: 15.247 is refering to when the radio is transmitting, as opposed to averaging
: the power over time and presumably over multi-bursts. I had this particular
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: wya you like. I could for instance see a radio with 100 feet of coax perm
: attached or with a 15.203 compliant connector and have the 1W measured at the
: end of the coax. This is allowed though no-body does it that I know of.
:
: Chris Anderson
: KA9UQO
:
:
:
: ---
: You are currently subscribed to ss as: k4bet@digital-wireless.com
: To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
:

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 24. [ss] Re: SS,Amature Radio

From: "Chris Anderson" <Chris_Anderson@grayhill.com>
Date: Wed, 27 Jun 2001 10:54:02 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-20750-2001.06.27-11.20.14--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I haven't been paying much attention to the PCMCIA cards raelly as they're all pretty much one of the Prism chipsets.  I have some generics that have reverse MMCX connectors on them but I haven't done much with them. If I were you I'd pick up one of the 802.11 Breezecom radios and rip it apart. They usually have a conn inside for the antennas. If I were me of course I'd just use our radio as it's got a reverse TNC. I don't expect your looking for a router though.

10GHz eh? I've been bulding this N6GN microwave data link project now for about 4 years 8) I just picked up some 24GHz MA/COM Gunns to try. I have a pair of 10GHz as well but I never quote seem to get time to mess with it.

Kerry Banke <kbanke@qualcomm.com> on 06/27/2001 10:11:20 AM

Please respond to "TAPR Spread Spectrum Special Interest Group"
<ss@lists.tapr.org>

To: "TAPR Spread Spectrum Special Interest Group"
<ss@lists.tapr.org>

cc: (bcc: Chris Anderson/NPD/GHI)

Subject: [ss] Re: SS,Amature Radio

I've been following the recent email on the reflector & woud like to
consider taking a pair of cheap 2.4 GHz 802.11 SS radios and translate
them to the 10 GHz Amateur band. What units are low cost and will provide
an external antenna jack that I can use to connect to a transverter?
Frequency doesn't matter as I can make the transverter match anything I
want. I've seen the Syncbyair PCMCIA 2.4 GHz units on Ebay but don't know
if thay have external antenna connections available or If they present any
other special problems. Any input on this would be appreciated.

At 09:44 AM 6/27/01 -0500, Chris Anderson wrote:
>I'd like to add my voice to the Jeffs's there, don't give up. I haven't made a
>contact for years but as I develop SS radios for a living I still hold out
hope

---
You are currently subscribed to ss as: chris_anderson@grayhill.com
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 25. [ss] Re: SS,Amature Radio

From: Kerry Banke <kbanke@qualcomm.com>
Date: Wed, 27 Jun 2001 09:34:20 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-20752-2001.06.27-11.54.44--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Chris - Thanks for thereply - The 10 Ghz portion of such a project is my
strong suite as I have been hosting the San Diego Microwave Group for over
14 years now & maintain a pretty decent home lab for working up through 12
Ghz. I have access to lot's of Qualcomm scrap for which I have developed
conversion procedures to produce synthesized 10 GHz transverters with 1 dB
noise figure and 1W output. These units of course solve all of the
frequency drift problems as well as are much higher performance all around
than the GUNN units. The bandwidth of the transverters can be just about
anything we'd possibly need (100 MHz+). If you'd be interested in getting

together on making a 10 Ghz wideband link, I'd be interested in working
with you.  If you already have a pair of 802.11 radios that you'd like to
put on 10 GHz, I'll be happy to make up a pair of  10 Ghz transverters to
match.  Is the 802.11 simplex or full duplex?  I haven't tried configuring
one of the 10 GHz transverters for full duplex but don't see why that
shouldn't be possible. I've got some committments through the Summer for
some Ham  microwave activities but could work on such a project this fall.
 - Kerry N6IZW

At 10:54 AM 6/27/01 -0500, you wrote:
>I haven't been paying much attention to the PCMCIA cards raelly as they're all
>pretty much one of the Prism chipsets.  I have some generics that have reverse
>MMCX connectors on them but I haven't done much with them. If I were you I'd
>pick up one of the 802.11 Breezecom radios and rip it apart. They usually
>have a
>conn inside for the antennas. If I were me of course I'd just use our radio as
>it's got a reverse TNC. I don't expect your looking for a router though.
>
>
>10GHz eh? I've been bulding this N6GN microwave data link project now for
about
>4 years 8) I just picked up some 24GHz MA/COM Gunns to try. I have a pair of
>10GHz as well but I never quote seem to get time to mess with it.
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>
>Kerry Banke <kbanke@qualcomm.com> on 06/27/2001 10:11:20 AM
>
>Please respond to "TAPR Spread Spectrum Special Interest Group"
>      <ss@lists.tapr.org>
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> To:      "TAPR Spread Spectrum Special Interest Group"
>          <ss@lists.tapr.org>
>
> cc:      (bcc: Chris Anderson/NPD/GHI)
>
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>
> Subject: [ss] Re: SS,Amature Radio
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>I've been following the recent email on the reflector & woud like to
>consider taking a pair of  cheap 2.4 GHz  802.11 SS radios and translate
>them to  the 10 GHz Amateur band. What units are low cost and will provide
>an external antenna jack that I can use to connect to a transverter?
>Frequency doesn't matter as I can make the transverter match anything I
>want.  I've seen the Syncbyair PCMCIA  2.4 GHz units on Ebay but don't know
>if thay have external antenna connections available or If they present any
>other special problems.  Any input on this would be appreciated.
>
>At 09:44 AM 6/27/01 -0500, Chris Anderson wrote:
>>I'd like to add my voice to the Jeffs's there, don't give up. I haven't
made a
>>contact for years but as I develop SS radios for a living I still hold out
>hope
>

>
>---
>You are currently subscribed to ss as: chris_anderson@grayhill.com
>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>
>
>
>
>---
>You are currently subscribed to ss as: KBANKE@QUALCOMM.COM
>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 26. [ss] Re: SS, Ricochet, etc

From: John Koster <w9ddd@tapr.org>
Date: Wed, 27 Jun 2001 14:59:55 -0500 (CDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-20849-2001.06.27-15.20.21--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

You can probably count on it.  Use it or lose it.

John Koster, W9DDD
<w9ddd@tapr.org>


On Wed, 27 Jun 2001, Paul McInnish wrote:

> And will probably loose some of our "exclusive" rights unless we use it!
>
> Best regards,
>
> Paul McInnish - K4BET
> Manager, Business Development
> Cirronet, Inc. (formerly Digital Wireless)
> 5375 Oakbrook Parkway
> Norcross, GA 30093, USA
>
> Direct Phone: 678.684.2011
> Fax: 678.684.2001
> Cell Phone: 678.429.2124
>
> Web site: http://www.cirronet.com
>
> The information transmitted herein is intended only for the person or entity
> to which it is addressed and may contain confidential and/or privileged
> material.  Any review, retransmission, dissemination or other use of, or
> taking of any action in reliance upon, this information by persons or
> entities other than the intended recipient is prohibited. If you received
> this in error, please notify the sender and delete the material from all
> computers. Thank You!
>
>
> ----- Original Message -----
> From: "John Koster" <w9ddd@tapr.org>
> To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
> Sent: Tuesday, June 26, 2001 8:41 PM
> Subject: [ss] Re: SS, Ricochet, etc
>
>
> :
> : On Tue, 26 Jun 2001, Steve Lampereur wrote:
> :
> : > Your right there is little chance of bumping off something like
> : > Metricom from 900 MHz.  If we would have been using the 900 & 2.4
> : > bands to begin with they probably wouldn't have been allocated for
> : > ISM as well,
> :
> : Actually 2.4 has been shared ever since we got the allocation (50 or so
> : years ago?).  Hams were secondary to military radar originally.  Getting
> : part of it as exclusive (or is the proper term primary?)  might be
> : considered a step up.  900 is a recent allocation (relatively speaking)
> : and as far as I can recall always has been a shared.  I think we got a

> : chance at it because others weren't using it heavily at the time, but I
> : wasn't paying that much attention at the time (raising teenagers).
> :
> : In the distant past 10GHz was the only allocation where hams had it to
> : themselves.
> :
> :
> : John Koster, W9DDD
> : <w9ddd@tapr.org>
> :
> :
> :
> : ---
> : You are currently subscribed to ss as: k4bet@digital-wireless.com
> : To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
> :
>
>
> ---
> You are currently subscribed to ss as: W9DDD@TAPR.ORG
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 27. [ss] Re: SS,Amature Radio

From: Jeff King <jeff@aerodata.net>
Date: Wed, 27 Jun 2001 16:29:43 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-20859-2001.06.27-15.49.32--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Paul McInnish wrote:


> Dog gone it, our radios will not tune down (actually they will, but firmware
> controlled and we are not going to let anyone have the code to modify the
> radio firmware).

As you well shouldn't, being that is how you make your money. However, how about
walking over to your software group and asking them how hard it would be to do
this? Might be a nice contribution Cirronet can make to amateur radio. One way
to sell this (trivial?) modification to management would be to explain to them it
would give them a pool of RF literate beta testers that would actually purchase
the equipment.

> However, seeing as how ours are in the ISM band, you can
> use them legally!  We have ALL the FCC, ETSI, Industry Canada & CE
> certifications!

Yes, under Part 15 but not Part 97? I think your units are frequency hoppers,
and they may visit the non amateur part of the ISM in their stock configuration.

Changing gears...

Say, have you given any thought to my idea of making a 900mhz WISP version? I really
like Cirronet's vision with regards to a CPE unit for the WISP market. As far
as I am concerned, you are the only company that is truly making a WISP product
and not a warmed over WLAN product. A 900mhz hopper, would making deployment in
truly rural areas much easier. Give it some thought, I think your old company
already had a 900mhz hopper although I'm not sure if it was in the ISDN speed
class (128K-256K).

Regards,

Jeff wb8wka

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 28. [ss] Re: SS,Amature Radio

From: "Chris Anderson" <Chris_Anderson@grayhill.com>
Date: Wed, 27 Jun 2001 16:17:03 -0500

To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-20864-2001.06.27-16.43.24--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I'm afraid I'm locked up with work. I've got 3 projects already so I never have time to do anything outside work.

As for our 2.4Ghz radio, it's a 2mbps QPSK radio. It's not actually 802.11 as 802.11 places some restrictions on packet turnaround that limit range while our product is designed for 5+ mile links. I was pondering putting a PLL on the Gunns at one time just fer grins but I never got aroud to it.

Kerry Banke <kbanke@qualcomm.com> on 06/27/2001 11:34:20 AM

Please respond to "TAPR Spread Spectrum Special Interest Group"
<ss@lists.tapr.org>

To: "TAPR Spread Spectrum Special Interest Group"
<ss@lists.tapr.org>

cc: (bcc: Chris Anderson/NPD/GHI)

Subject: [ss] Re: SS,Amature Radio

Chris - Thanks for thereply - The 10 Ghz portion of such a project is my strong suite as I have been hosting the San Diego Microwave Group for over 14 years now & maintain a pretty decent home lab for working up through 12 Ghz. I have access to lot's of Qualcomm scrap for which I have developed conversion procedures to produce synthesized 10 GHz transverters with 1 dB noise figure and 1W output. These units of course solve all of the frequency drift problems as well as are much higher performance all around than the GUNN units. The bandwidth of the transverters can be just about anything we'd possibly need (100 MHz+). If you'd be interested in getting together on making a 10 Ghz wideband link, I'd be interested in working with you. If you already have a pair of 802.11 radios that you'd like to put on 10 GHz, I'll be happy to make up a pair of 10 Ghz transverters to match. Is the 802.11 simplex or full duplex? I haven't tried configuring one of the 10 GHz transverters for full duplex but don't see why that shouldn't be possible. I've got some committments through the Summer for some Ham microwave activities but could work on such a project this fall.
- Kerry N6IZW

At 10:54 AM 6/27/01 -0500, you wrote:
>I haven't been paying much attention to the PCMCIA cards raelly as they're all
>pretty much one of the Prism chipsets. I have some generics that have reverse
>MMCX connectors on them but I haven't done much with them. If I were you I'd
>pick up one of the 802.11 Breezecom radios and rip it apart. They usually
>have a
>conn inside for the antennas. If I were me of course I'd just use our radio as
>it's got a reverse TNC. I don't expect your looking for a router though.
>
>
>10GHz eh? I've been bulding this N6GN microwave data link project now for
about
>4 years 8) I just picked up some 24GHz MA/COM Gunns to try. I have a pair of
>10GHz as well but I never quote seem to get time to mess with it.
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>Kerry Banke <kbanke@qualcomm.com> on 06/27/2001 10:11:20 AM
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>Please respond to "TAPR Spread Spectrum Special Interest Group"
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> To:      "TAPR Spread Spectrum Special Interest Group"
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> cc:      (bcc: Chris Anderson/NPD/GHI)
>
>
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> Subject: [ss] Re: SS,Amature Radio
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>I've been following the recent email on the reflector & woud like to
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>Frequency doesn't matter as I can make the transverter match anything I
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>other special problems.  Any input on this would be appreciated.
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>>I'd like to add my voice to the Jeffs's there, don't give up. I haven't
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>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
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>You are currently subscribed to ss as: KBANKE@QUALCOMM.COM
>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
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You are currently subscribed to ss as: chris_anderson@grayhill.com
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org




---

You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 29. [ss] Re: SS,Amature Radio

From: "Paul McInnish" <k4bet@cirronet.com>
Date: Wed, 27 Jun 2001 17:42:57 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-20866-2001.06.27-17.00.55--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Jeff... tnx for the input...

1st.... our 'code' is very complex and with the demands of normal day to day activities and the level of business activity we have and priorities what they are... internal development and customer needs are addressed first. Thus, this code mod would be forever being changed. We are busier than one armed paper hangers in a paper hanging contest.

2nd.... Our chief engineer tells me that would potentially put us into violation of the ETSI & CE requirements and that will never happen as that is our bread & butter! As our firmware now exists... any parameter that needs changing can be done with a configuration program we provide to the customer (our radio's have hundreds of 'changeable' parameters) and if a parameter exists that can be changed to cause the radio to operate beyond the ETSI & CE requirements, then the certifications are null and void. So........

3rd.... We had a 900 MHz ISM product line and discontinued it... lack of sales 'cause we were limited only to USA, Canada, Mexico & Australia in the 900 MHz ISM band. The 2.4 GHz band allows us to sell world wide and in fact, we do! Almost half of our sales are international! (Yep, I love it when we can contribute to the reduction of the trade deficit - yep built in good ol USA - Atlanta). Also, the 900 MHz ISM band restricts the number of hopping channels we can use... and before someone asks... we have NO desire to do Direct Sequence radios... can't do the neat digital things with DS we do with our "hoppers". Yep, the old 900 MHz product had a OTA data rate of 230kbps (115kbps full - duplex... both directions, simultaneously). Our current 2.4 GHz product has an OTA data rate of 460kbps (230kbps, full duplex, both directions) and will be announcing a new 1.2mbps radio in next few months... past alpha stage and in full (pilot production) beta testing now.

4th.... Our fastest growing segment of our business is the WISP business! We only sell to (financially sound) ISP's & Telco's. But our OEM, Commercial & Industrial segment of our business is still 65% of our total business and growing like a house fire (admittedly, the WISP side of our business also growing like gang busters... maybe a little faster than the OEM side!).

Best regards,

Paul McInnish - K4BET
Manager, Business Development
Cirronet, Inc. (formerly Digital Wireless)
5375 Oakbrook Parkway
Norcross, GA 30093, USA

Direct Phone: 678.684.2011
Fax: 678.684.2001
Cell Phone: 678.429.2124

Web site: http://www.cirronet.com

The information transmitted herein is intended only for the person or entity to which it is addressed and may contain confidential and/or privileged material. Any review, retransmission, dissemination or other use of, or taking of any action in reliance upon, this information by persons or entities other than the intended recipient is prohibited. If you received this in error, please notify the sender and delete the material from all computers. Thank You!

----- Original Message -----
From: "Jeff King" <jeff@aerodata.net>
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Sent: Wednesday, June 27, 2001 4:29 PM
Subject: [ss] Re: SS,Amature Radio

:

:
: Paul McInnish wrote:
:
:
: > Dog gone it, our radios will not tune down (actually they will, but
firmware
: > controlled and we are not going to let anyone have the code to modify
the
: > radio firmware).
:
: As you well shouldn't, being that is how you make your money. However, how
about
: walking over to your software group and asking them how hard it would be
to do
: this? Might be a nice contribution Cirronet can make to amateur radio. One
way
: to sell this (trivial?) modification to management would be to explain to
them it
: would give them a pool of RF literate beta testers that would actually
purchase
: the equipment.
:
: > However, seeing as how ours are in the ISM band, you can
: > use them legally!  We have ALL the FCC, ETSI, Industry Canada & CE
: > certifications!
:
: Yes, under Part 15 but not Part 97? I think your units are frequency
hoppers,
: and they may visit the non amateur part of the ISM in their stock
configuration.
:
: Changing gears...
:
: Say, have you given any thought to my idea of making a 900mhz WISP
version? I really
: like Cirronet's vision with regards to a CPE unit for the WISP market. As
far
: as I am concerned, you are the only company that is truly making a WISP
product
: and not a warmed over WLAN product. A 900mhz hopper, would making
deployment in
: truly rural areas much easier. Give it some thought, I think your old
company
: already had a 900mhz hopper although I'm not sure if it was in the ISDN
speed
: class (128K-256K).
:
: Regards,
:
: Jeff wb8wka
:
: ---
: You are currently subscribed to ss as: k4bet@digital-wireless.com
: To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
:


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 30. [ss] Re: SS,Amature Radio

From: Jeff King <jeff@aerodata.net>
Date: Wed, 27 Jun 2001 18:32:28 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-20873-2001.06.27-17.51.51--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Paul McInnish wrote:

(on suggesting cirronet support amateur radio use of their product)

> 4th.... Our fastest growing segment of our business is the WISP business!
> We only sell to (financially sound) ISP's & Telco's.

OK, sorry, didn't think I was out of line asking as this is a amateur radio list and
you have been posting promoting your companies products here.

-Jeff

>Paul McInnish - K4BET
>Manager, Business Development
>Cirronet, Inc. (formerly Digital Wireless)
>5375 Oakbrook Parkway
>Norcross, GA 30093, USA
>
>Direct Phone: 678.684.2011
>Fax: 678.684.2001
>Cell Phone: 678.429.2124
>
>Web site: http://www.cirronet.com

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 31. [ss] Re: SS,Amature Radio

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Wed, 27 Jun 2001 18:21:55 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-20889-2001.06.27-18.42.20--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Yes it would be nice to find more companies (like Proxim) that
will supply hams with 2.4 GHz, FHSS units that hop within the
amateur overlap (2400-2450 MHz).  (Personally I'd like to be
able to do it myself.)  If your company will do this let me
know.

As we all should know:
FHSS on 2.4 is that it is spread over the entire 2400-2483.5 MHz
ISM band.  The amateur overlap stops at 2450 MHz.  DSSS systems
can be user set for 1 of 11 channels, the first 6 land in the
overlapping section.  (on all other bands 900 & 5.7 this isn't
an issue as there is full overlap)  Some manufactures like
Proxim will sell amateur's FHSS gear programed with the
Australian ISM band plan 2400-2445 MHz.  Most cards are
factory *programmed* for the intented country to where they will
be sold.  Theoretically it's possible to change your card
country code, through software and probably many other things,
like hopping times, (also disable hopping)
(http://www.qsl.net/kb9mwr/projects/wireless/dssfreq.txt)

As for transverting it.  We have toyed with the idea of
converting it to the 1296 ham band, it should work if everything
can switch fast enough.  Unfortunatly the transverters that
exist are very pricy and low power.  We are still working on a
homebrew transverter for this purpose.

As for the Part 97 vs Part 15 radiated power issue here is how I
interpret it: (assumes no coax loses)

(Just under a 1 Watt to avoid having to use automatic power control as
per 97.311(d))

With 950 mW (0.95 Watts or 29.7 dBm) into a 24 dBi parabolic = 238 Watts
EIRP
-
And under Part 15 using directional antennas to get the same:

(i) Systems operating in the 2400-2483.5 MHz band that are used
exclusively for fixed, point-to-point operations may employ transmitting
antennas with directional gain greater than 6 dBi provided the maximum
peak output power of the intentional radiator is reduced by 1 dB for
every 3 dB that the directional gain of the antenna exceeds 6 dBi.

Example:

| Max Transmitter RF power (dBm) | Antenna Gain (dBi) | EIRP (W) |
|---|---|---|
| 30 | 6 | 3.98 |
| 29 | 9 | 6.35 |
| 28 | 12 | 10.14 |
| 27 | 15 | 15.81 |
| 26 | 18 | 25.23 |
| 25 | 21 | 40.28 |

```
          24                              24                     40.28<--
http://www.qsl.net/kb9mwr/projects/wireless/pwr.html  (for further)

I also have a number of ideas related to use of wireless ethernet cards
for amateur radio networking that require writing and or disassembling
software and I am looking for help (both Linux & Windows solutions)
See: http://www.tapr.org/tapr/list-archive/netsig/0106/msg00006.html


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
```

## 32. [ss] Re: SS,Amature Radio

From: "Paul McInnish" <k4bet@cirronet.com>
Date: Thu, 28 Jun 2001 09:16:31 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-20994-2001.06.28-08.35.02--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Jeff... Bull $#&%, I HAVE NOT BEEN PROMOTING OUR PRODUCTS!  You asked questions and I responded to them, in detail!  If you did NOT want detailed answers or want the world to see the answers, you should have asked OFF LINE and I would have responded OFF LINE!

Another point... by giving detailed answers for the world to see... there is always a slim chance that someone may learn there is more than one way to do something... some other application... some other need... Yes, I - and here comes another push for my company as you would see it - support amateur radio!  I... we (here is another "promotion as you would see it"), have donated tons of product to various amateur radio groups for use in such applications as repeater control (point - to - point & point - to - multipoint of various remote receiver sites, etc.), balloon chase groups, data logging for public service events (parades, charity drives that amateur radio operators provide communications for, etc.).  We (the company) bought and paid for and pay the monthly bills for a repeater and some remote sites, etc., etc., etc.  And I did not want to mention it but I asked the Engineering group to investigate some way the products could be shifted to use the Part 97 bands and somehow keep us out of trouble in the Part 15 bands... they agreed!  I can assure you, that push just stopped at my direction!  You happy??

This is last and final response to you in public!  I resent your chastisement in public!  I do not want to see any more reference by you about me or my company in public!  You are the kind of loud mouth that cause companies like ours to turn away from providing any support of any kind to amateur radio!  The almighty self appointed police of the airways and internet!

For the benefit of those that may read all of my above diatribe, I apologize to you and now that my anger has calmed down... this is my last post - of any kind - to this list!

Paul McInnish

```
----- Original Message -----
From: "Jeff King" <jeff@aerodata.net>
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Sent: Wednesday, June 27, 2001 6:32 PM
Subject: [ss] Re: SS,Amature Radio


:
:
: Paul McInnish wrote:
:
: (on suggesting cirronet support amateur radio use of their product)
:
: > 4th.... Our fastest growing segment of our business is the WISP
business!
: > We only sell to (financially sound) ISP's & Telco's.
:
: OK, sorry, didn't think I was out of line asking as this is a amateur
radio list and
: you have been posting promoting your companies products here.
:
:
: -Jeff
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:
:
:
:
: >Paul McInnish - K4BET
: >Manager, Business Development
: >Cirronet, Inc. (formerly Digital Wireless)
: >5375 Oakbrook Parkway
: >Norcross, GA 30093, USA
: >
: >Direct Phone: 678.684.2011
: >Fax: 678.684.2001
: >Cell Phone: 678.429.2124
: >
: >Web site: http://www.cirronet.com
:
: ---
: You are currently subscribed to ss as: k4bet@digital-wireless.com
: To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
:

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You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 33. [ss] Re: SS,Amature Radio

From: Ryan Wilkins <ryan@cajun.deadfrog.net>
Date: Thu, 28 Jun 2001 10:12:06 -0400 (EDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-21013-2001.06.28-09.32.30--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Just for my own curiosity, what kind of restrictions does 802.11 impose on
packet turn around to limit range?  I, and a group of friends, am trying to
setup a wireless point to point link using 2mbps 802.11 FHSS PC-Cards.  We were
able to get the devices linked at 2 miles. We're trying for 10 miles but that
may be too much of a stretch, not to mention a lot of free space attenuation
along with god knows what else in the way.  We may make the move to DSSS cards
instead but I dont know that it will really help us any.

In a different experiment a year or two ago, we tried running a 2Mbps link 6
miles but never could close the link 100%.  We were constantly showing packet
losses anywhere from 30% to 70%.  I had several thoughts of what could have
contributed to the problem but never really investigated it much further.

Ryan Wilkins
N8YHV

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> time to do anything outside work.
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> As for our 2.4Ghz radio, it's a 2mbps QPSK radio. It's not actually 802.11 as
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> Chris  - Thanks for thereply - The 10 Ghz portion of such a project is my
> strong suite as I have been hosting the San Diego Microwave Group for over
> 14 years now & maintain a pretty decent home lab for working up through 12
> Ghz.  I have access to lot's of Qualcomm scrap for which I have developed
> conversion procedures to produce synthesized  10 GHz transverters with 1 dB
> noise figure and 1W output.  These units of course solve all of the
> frequency drift problems as well as are much higher performance all around
> than the GUNN units.   The bandwidth of the transverters can be just about
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> together on making a 10 Ghz wideband link, I'd be interested in working
> with you.  If you already have a pair of 802.11 radios that you'd like to
> put on 10 GHz, I'll be happy to make up a pair of  10 Ghz transverters to
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> one of the 10 GHz transverters for full duplex but don't see why that
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> >---
> >You are currently subscribed to ss as: chris_anderson@grayhill.com
> >To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
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> ---
> You are currently subscribed to ss as: RYAN@DEADFROG.NET
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>


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You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 34. [ss] Re: SS,Amature Radio

From: "Paul McInnish" <k4bet@cirronet.com>
Date: Thu, 28 Jun 2001 10:59:02 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-21034-2001.06.28-10.17.10--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Ryan... a couple of comments....

Two issues you will run into with the 802.11 link and those are....

1.  Even at two miles, the "string" is stretched way beyond the intent of
802.11 product and your data thru-put will be slower - as we say here in
Jawja - than molasses!  10 miles, even if you used 25 - 35 dBi parabolic
dishes will suffer even more thru-put slow down... if you can make a link.

2.  The other issue and even with the 2 mile hop... remembering that 802.11
products are theoretically built around a 'standard' that will allow other
manufacturers products to talk to each other and the chances of other 802.11
devices, of every conceivable type, being anywhere near a extended path such
as your 2 mile path are really highly likely and you will have so much

jamming going on that the apparent data thru-put, at times, will be
non-existent or slower than "molasses" (we have run tests here in metro
Hotlanta and found this to be true... with much, much shorter paths than
your 2 miles).

OK, Jeff, you bucket mouth, sanctimonious lid and self appointed amateur
radio/internet cop, here is some more "commercializing"...

This is some of the many reason's our firm and several other competitive
firms that are in the digital RF data transceiver business choose NOT to buy
into the 802.11 standard.

Best regards,

Paul McInnish - K4BET

----- Original Message -----
From: "Ryan Wilkins" <ryan@cajun.deadfrog.net>
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Sent: Thursday, June 28, 2001 10:12 AM
Subject: [ss] Re: SS,Amature Radio


: Just for my own curiosity, what kind of restrictions does 802.11 impose on
: packet turn around to limit range?  I, and a group of friends, am trying
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: setup a wireless point to point link using 2mbps 802.11 FHSS PC-Cards.  We
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: instead but I dont know that it will really help us any.
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: On Wed, 27 Jun 2001, Chris Anderson wrote:
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: > As for our 2.4Ghz radio, it's a 2mbps QPSK radio. It's not actually
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: > >You are currently subscribed to ss as: chris_anderson@grayhill.com
: > >To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
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## 35. [ss] Re: SS,Amature Radio

From: "Chris Anderson" <Chris_Anderson@grayhill.com>
Date: Thu, 28 Jun 2001 10:15:47 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-21040-2001.06.28-10.42.04--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

the 802.11b spec says you have like 20uS to send an ACK/NAK to resepose when you get a packet. at something like 0.169 miles/uS 20uS would be about 3 miles. SO if your link distance is say 10 or 15 miles (we did a link of 12 miles while beta testing ) your transmitting radio wouldn't get his response within the 20uS and he'd try to resend the last packet. Most likely causing a collision and of course shooting network efficency down the toilet. That's why we're not 802.11. In our opinion, in general 802.11 isn't a good idea for reliable long range communicaitons. HEY! DO NOT FLAME ME ABOUT 802.11 I have no intrest in holy war. I'm just explaining why WE chose not to be 802.11, our customers ususally want long range, thus the trade off.

I don't know off hand if the 802.11 FHSS PHY definition says something similar I suspect it does but ye'd want to look it up.

Ryan Wilkins <ryan@cajun.deadfrog.net> on 06/28/2001 09:12:06 AM

Please respond to "TAPR Spread Spectrum Special Interest Group"
<ss@lists.tapr.org>

To: "TAPR Spread Spectrum Special Interest Group"
<ss@lists.tapr.org>

cc: (bcc: Chris Anderson/NPD/GHI)

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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
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You are currently subscribed to ss as: lyris.ss@tapr.org
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## 36. [ss] Re: SS,Amature Radio

From: Ryan Wilkins <ryan@cajun.deadfrog.net>
Date: Thu, 28 Jun 2001 11:35:53 -0400 (EDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-21047-2001.06.28-10.57.46--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

That's good info to know.  I'm sure I could find something on google but while
I'm here do you have any good links for the 802.11 and 802.11b specs for both
FHSS and DSSS?

Thanks,
Ryan Wilkins

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> and he'd try to resend the last packet. Most likely causing a collision and of
> course shooting network efficency down the toilet. That's why we're not 802.11.
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> I'm just explaining why WE chose not to be 802.11, our customers ususally want
> long range, thus the trade off.
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> I don't know off hand if the 802.11 FHSS PHY definition says something similar I
> suspect it does but ye'd want to look it up.
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>
> Ryan Wilkins <ryan@cajun.deadfrog.net> on 06/28/2001 09:12:06 AM
>
> Please respond to "TAPR Spread Spectrum Special Interest Group"
>       <ss@lists.tapr.org>
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>
>  To:      "TAPR Spread Spectrum Special Interest Group"
>           <ss@lists.tapr.org>
>
>  cc:      (bcc: Chris Anderson/NPD/GHI)
>
>
>

> Subject: [ss] Re: SS,Amature Radio
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> miles but never could close the link 100%. We were constantly showing packet
> losses anywhere from 30% to 70%. I had several thoughts of what could have
> contributed to the problem but never really investigated it much further.
>
> Ryan Wilkins
> N8YHV
>
> On Wed, 27 Jun 2001, Chris Anderson wrote:
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> > I'm afraid I'm locked up with work. I've got 3 projects already so I never
> have
> > time to do anything outside work.
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> > 802.11 places some restrictions on packet turnaround that limit range while
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> > Please respond to "TAPR Spread Spectrum Special Interest Group"
> > <ss@lists.tapr.org>
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> > Subject: [ss] Re: SS,Amature Radio
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> > Chris - Thanks for thereply - The 10 Ghz portion of such a project is my
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> > 14 years now & maintain a pretty decent home lab for working up through 12
> > Ghz. I have access to lot's of Qualcomm scrap for which I have developed
> > conversion procedures to produce synthesized 10 GHz transverters with 1 dB
> > noise figure and 1W output. These units of course solve all of the
> > frequency drift problems as well as are much higher performance all around

> > than the GUNN units.  The bandwidth of the transverters can be just about
> > anything we'd possibly need (100 MHz+).  If you'd be interested in getting
> > together on making a 10 Ghz wideband link, I'd be interested in working
> > with you.  If you already have a pair of 802.11 radios that you'd like to
> > put on 10 GHz, I'll be happy to make up a pair of  10 Ghz transverters to
> > match.  Is the 802.11 simplex or full duplex?  I haven't tried configuring
> > one of the 10 GHz transverters for full duplex but don't see why that
> > shouldn't be possible. I've got some committments through the Summer for
> > some Ham  microwave activities but could work on such a project this fall.
> >  - Kerry N6IZW
> >
> > At 10:54 AM 6/27/01 -0500, you wrote:
> > >I haven't been paying much attention to the PCMCIA cards raelly as they're
> all
> > >pretty much one of the Prism chipsets.  I have some generics that have
> reverse
> > >MMCX connectors on them but I haven't done much with them. If I were you I'd
> > >pick up one of the 802.11 Breezecom radios and rip it apart. They usually
> > >have a
> > >conn inside for the antennas. If I were me of course I'd just use our radio
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> > >it's got a reverse TNC. I don't expect your looking for a router though.
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> > >
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> > >
> > >Please respond to "TAPR Spread Spectrum Special Interest Group"
> > >      <ss@lists.tapr.org>
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> > >them to  the 10 GHz Amateur band. What units are low cost and will provide
> > >an external antenna jack that I can use to connect to a transverter?
> > >Frequency doesn't matter as I can make the transverter match anything I
> > >want.  I've seen the Syncbyair PCMCIA  2.4 GHz units on Ebay but don't know
> > >if thay have external antenna connections available or If they present any
> > >other special problems.  Any input on this would be appreciated.
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> > >>I'd like to add my voice to the Jeffs's there, don't give up. I haven't
> > made a
> > >>contact for years but as I develop SS radios for a living I still hold out
> > >hope
> > >
> > >
> > >---
> > >You are currently subscribed to ss as: chris_anderson@grayhill.com
> > >To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
> > >
> > >
> > >
> > >
> > >
> > >---
> > >You are currently subscribed to ss as: KBANKE@QUALCOMM.COM
> > >To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
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> > You are currently subscribed to ss as: chris_anderson@grayhill.com
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> > ---
> > You are currently subscribed to ss as: RYAN@DEADFROG.NET
> > To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
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> You are currently subscribed to ss as: chris_anderson@grayhill.com
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>
>


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 37. [ss] Re: SS,Amature Radio

From: "Chris Anderson" <Chris_Anderson@grayhill.com>
Date: Thu, 28 Jun 2001 10:57:23 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-21055-2001.06.28-11.23.39--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

not really, I walked over to the software guy and borrowed his printed copy of
the 802.11 spec. I'm doin a serial radio just now so I haven't needed the 802.11
stuff for a while.

Ryan Wilkins <ryan@cajun.deadfrog.net> on 06/28/2001 10:35:53 AM

Please respond to "TAPR Spread Spectrum Special Interest Group"
      <ss@lists.tapr.org>

To: "TAPR Spread Spectrum Special Interest Group"
<ss@lists.tapr.org>

cc: (bcc: Chris Anderson/NPD/GHI)

Subject: [ss] Re: SS,Amature Radio

That's good info to know. I'm sure I could find something on google but while I'm here do you have any good links for the 802.11 and 802.11b specs for both FHSS and DSSS?

Thanks,
Ryan Wilkins

On Thu, 28 Jun 2001, Chris Anderson wrote:

> the 802.11b spec says you have like 20uS to send an ACK/NAK to resepose when you
> get a packet. at something like 0.169 miles/uS 20uS would be about 3 miles. SO
> if your link distance is say 10 or 15 miles (we did a link of 12 miles while
> beta testing ) your transmitting radio wouldn't get his response within the 20uS
> and he'd try to resend the last packet. Most likely causing a collision and of
> course shooting network efficency down the toilet. That's why we're not 802.11.
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> > >have a
> > >conn inside for the antennas. If I were me of course I'd just use our radio
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> > >it's got a reverse TNC. I don't expect your looking for a router though.
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> > >
> > >10GHz eh? I've been bulding this N6GN microwave data link project now for
> > about
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> > > Subject: [ss] Re: SS,Amature Radio
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> > >---
> > >You are currently subscribed to ss as: chris_anderson@grayhill.com
> > >To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
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You are currently subscribed to ss as: chris_anderson@grayhill.com
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org




---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 38. [ss] Re: SS,Amature Radio

From: "Shawn T. Rutledge" <ecloud@bigfoot.com>
Date: Thu, 28 Jun 2001 12:45:19 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-21098-2001.06.28-15.05.53--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Thu, Jun 28, 2001 at 10:59:02AM -0400, Paul McInnish wrote:
> OK, Jeff, you bucket mouth, sanctimonious lid and self appointed amateur
> radio/internet cop, here is some more "commercializing"...

I think we've had enough of your personal attacks.  I can't see that
Jeff did a whole lot to provoke this; only noticed that you present a
"dangling carrot" - products which might be useful if only they were
modified a little, but your company won't sell them to us anyway.

Let's try to keep it civil.

--
  _______                     Shawn T. Rutledge / KB7PWD  ecloud@bigfoot.com
 (_  | |_)          http://www.bigfoot.com/~ecloud  kb7pwd@kb7pwd.ampr.org
 __) | | _____________________________________________________________

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 39. [ss] Re: SS,Amature Radio

From: Jeff King <jeff@aerodata.net>
Date: Thu, 28 Jun 2001 15:50:48 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-21099-2001.06.28-15.10.15--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Paul McInnish wrote:

 > Jeff... Bull $#&%, I HAVE NOT BEEN PROMOTING OUR PRODUCTS!

OK, sorry, not that promoting it is a bad thing. I just was explaining why
I thought your company (or you) might have a interest in supporting a amateur radio
version of the firmware, first to keep the FH in the band, and second to give
a hook for automatic power control. Many people use the resources of their companies to
help amateur radio, I can list many on this very list. But many don't or can't,
this is no crime, nor was I implying in any way it was. I simply mis-read your
intentions.

 > This is last and final response to you in public!

Then in another message to Ryan Wilkins a hour later you wrote:

 >OK, Jeff, you bucket mouth, sanctimonious lid and self appointed amateur
 >radio/internet cop, here is some more "commercializing"...

Somebody forget their morning coffee today?

 > You are the kind of loud mouth that cause
 > companies like ours to turn away from providing any support of any kind to
 > amateur radio!

How specifically is that? If a company puts out a piece of junk, sure I'll speak up
about it. But such was not the case here.

If you'll do me the favor and look at my prior postings about your
company,  you'll see nothing but praise, in particular in comparing your company to
the other WISP players. I thought your companies radio architecture would fit in well
with amateur radio. Your architecture is in fact is similar to the TAPR SS radio
project, at least one description I heard of it. It just wasn't
clear to me if your interest was personal or from your company (based on your extensive
SIG line, which I noticed you have now removed). I thought possibly your company might
have a interest in the amateur radio market, or at a minimum that was something you
were hoping to do. I was mistaken.

Hey, I might have deserved a kick in the butt here, but not your salvo of nuclear weapons.
Lighten up a bit, OK?

-Jeff

> : Paul McInnish wrote:
> :
> : (on suggesting cirronet support amateur radio use of their product)
> :
> : > 4th.... Our fastest growing segment of our business is the WISP
> business!
> : > We only sell to (financially sound) ISP's & Telco's.
> :
> : OK, sorry, didn't think I was out of line asking as this is a amateur
> radio list and
> : you have been posting promoting your companies products here.
> :
> :
> : -Jeff
> :
> :

> :
> :
> : >Paul McInnish - K4BET
> : >Manager, Business Development
> : >Cirronet, Inc. (formerly Digital Wireless)
> : >5375 Oakbrook Parkway
> : >Norcross, GA 30093, USA
> : >
> : >Direct Phone: 678.684.2011
> : >Fax: 678.684.2001
> : >Cell Phone: 678.429.2124
> : >
> : >Web site: http://www.cirronet.com
> :
> : ---
> : You are currently subscribed to ss as: k4bet@digital-wireless.com
> : To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
> :
>
> ---
> You are currently subscribed to ss as: jeff@aerodata.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 40. [ss] Re: SS,Amature Radio

From: Devin Butterfield <dbutter@wireless.net>
Date: Thu, 28 Jun 2001 13:34:05 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-21106-2001.06.28-15.52.36--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>
> For the benefit of those that may read all of my above diatribe, I
> apologize to you and now that my anger has calmed down... this is my last
> post - of any kind - to this list!
>
> Paul McInnish

Please honor this statement, and unsubscribe from this list.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 41. [ss] Re: SS,Amature Radio

From: Luis Yanes <melus0@teleline.es>
Date: Fri, 29 Jun 2001 03:52:22 +0200
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-21166-2001.06.28-21.14.17--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Talking about how should the SS things be done, or how will like that
will be, or what we sell could do, or what is doing these commercial
stuff that we can't use, or... Well for wireless network access we only
have to sit down and wait.

But is someone building something here?. For amateur use?. Without
commercial boards?.

May be just the nature of SS over UHF with its local range, and
complex appearence. From time to time, here one can learn something
interesting also.

What we get is what we deserve. And also I'm guilty first without
almost any excuse. Please, understand that this isn't a flame to
anyone just my own frustration, and probably would have been better to
do not post it since may be won't be understood positively.
--
73's de Luis

mail: melus0(@)teleline(.)es
Ampr: eb7gwl.ampr.org
http://www.terra.es/personal2/melus0/ <- PCBs for Homebrewed Hardware

---

You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 42. [ss] Re: SS,Amature Radio

From: Hamish Moffatt <hamish@cloud.net.au>
Date: Fri, 29 Jun 2001 23:19:23 +1000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-21269-2001.06.29-10.01.59--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Thu, Jun 28, 2001 at 10:15:47AM -0500, Chris Anderson wrote:
> In our opinion, in general 802.11 isn't a good idea for reliable long range
> communicaitons. HEY! DO NOT FLAME ME ABOUT 802.11 I have no intrest in holy war.
> I'm just explaining why WE chose not to be 802.11, our customers ususally want
> long range, thus the trade off.
>
> I don't know off hand if the 802.11 FHSS PHY definition says something similar I
> suspect it does but ye'd want to look it up.

Don't you think that standards-compliance is in the best interests of
the customers, though? It's to the customers' advantage if they can mix
products from different vendors, and that requires a standard like
802.11. Otherwise they are locked in to your products. Something your
marketing department is probably quite happy with?

Hamish
--
Hamish Moffatt VK3SB <hamish@debian.org> <hamish@cloud.net.au>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 43. [ss] Re: SS,Amature Radio

From: Hamish Moffatt <hamish@cloud.net.au>
Date: Fri, 29 Jun 2001 23:20:22 +1000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-21270-2001.06.29-10.02.31--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Thu, Jun 28, 2001 at 12:45:19PM -0700, Shawn T. Rutledge wrote:
> On Thu, Jun 28, 2001 at 10:59:02AM -0400, Paul McInnish wrote:
> > OK, Jeff, you bucket mouth, sanctimonious lid and self appointed amateur
> > radio/internet cop, here is some more "commercializing"...
>
> I think we've had enough of your personal attacks.  I can't see that
> Jeff did a whole lot to provoke this; only noticed that you present a
> "dangling carrot" - products which might be useful if only they were
> modified a little, but your company won't sell them to us anyway.

Yes; to be fair, Paul said just a couple of days ago that their
products cannot be modified for use in the amateur band (or at
least, they won't do it). So I wonder why Paul thinks they are
of continual interest to amateurs on this list.

Hamish
--
Hamish Moffatt VK3SB <hamish@debian.org> <hamish@cloud.net.au>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 44. [ss] Re: SS,Amature Radio

From: "Chris Anderson" <Chris_Anderson@grayhill.com>
Date: Fri, 29 Jun 2001 10:26:37 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-21278-2001.06.29-10.53.10--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

A "Standard" is a propriatary solution that a very big company forced on a given
market. It seems to me that if your making WLAN cards for under 100 meters under
100mW and under $200 802.11 aint bad. Thats typical consumer office product
fare. We don't make office products. We sell to a different market who's needs
are different. They want different things because they have a different
application. Thus, for our market 802.11 isn't suitable. It's simply a matter of

don't try and use an HT for EME, you might hear something but you sure can't count on it.

I've been pondering creating a standard for FHSS actually but it's not real high on the priority list. Another thing to keep in mind is that what a ham wants in a SS radio is different from what many of our users want. For instance if I was buying a SS radio for ham radio use, I'd expect to be able to alter the length, speed and content of the hopset. Our customers want very very simple interfaces with "as few things to mess with" as possable. A ham of course wants to mess with EVERYTHING! 8) as it should be.

Hamish Moffatt <hamish@cloud.net.au> on 06/29/2001 08:19:23 AM

Please respond to "TAPR Spread Spectrum Special Interest Group"
<ss@lists.tapr.org>

To: "TAPR Spread Spectrum Special Interest Group"
<ss@lists.tapr.org>

cc: (bcc: Chris Anderson/NPD/GHI)

Subject: [ss] Re: SS,Amature Radio

On Thu, Jun 28, 2001 at 10:15:47AM -0500, Chris Anderson wrote:
> In our opinion, in general 802.11 isn't a good idea for reliable long range
> communicaitons. HEY! DO NOT FLAME ME ABOUT 802.11 I have no intrest in holy war.
> I'm just explaining why WE chose not to be 802.11, our customers ususally want
> long range, thus the trade off.
>
> I don't know off hand if the 802.11 FHSS PHY definition says something similar I
> suspect it does but ye'd want to look it up.

Don't you think that standards-compliance is in the best interests of the customers, though? It's to the customers' advantage if they can mix products from different vendors, and that requires a standard like 802.11. Otherwise they are locked in to your products. Something your marketing department is probably quite happy with?

Hamish
--
Hamish Moffatt VK3SB <hamish@debian.org> <hamish@cloud.net.au>

---
You are currently subscribed to ss as: chris_anderson@grayhill.com
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org

To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 45. [ss] Re: SS,Amature Radio

From: "Paul McInnish" <k4bet@cirronet.com>
Date: Fri, 29 Jun 2001 11:54:04 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-21280-2001.06.29-11.12.05--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hamish... (to quote your response: "So I wonder why Paul thinks they are of continual interest to amateurs on this list.") of considerable interest because we do support amateur radio - contrary to what Jeff thinks - and if you would read some of my previous flames when I was madder than all get out @ Jeff... you'll read where we have donated, provided and supplied tons of radios to the amateur community! Provided a lot of money to support various 'things', etc., etc., etc., etc. As we carry on this diatribe, our radios are being used right now, in many many NON commercial amateur applications!!!!! Another reason... when I threatened to unsubscribe... I got tons of e-mail asking me to 'stick around' and continue contributing in what little infinite small way I or my firm could!

And of course there is interest by tons of amateurs in a leading & cutting edge (yes, proprietary) technology! Quite a few of our competitors do the same as we... do things of a proprietary nature BUT of interest to amateurs. How many hams do you think we have working for us?? A major percentage! As a matter of fact, when we have a technical job slot come open... a ham will get an unofficial edge over a non-licensed person. So, you want me and my company to go away, if that is what you and the majority want, then I'll go in & talk with our CEO and we can change ALL these things as related to amateur radio. No consideration for "freebies", no consideration for employment if you have a ham ticket, no participation in many, many extra circular activities that hams are involved in, take the repeater down and all the remote sites, stop paying the power and phone bills for the repeater system, stop the remote repeater sites from communicating & controlling the system back to the main site via our PROPRIETARY technology radios, and on and on and on! When and where in the heck do you think our proprietary technology was developed? In a dark dungeon, hidden from amateurs? Heck no, it was our employees with ham licenses!

We or our competitors will not devote that many resources to amateur radio because of many millions and millions of dollars invested there is NO WAY we could recover even 1% of our stock holders investment by participating in an extremely small market, a market that is traditionally non profitable... you know what that market is? Yep, amateur radio! Why have dozens and dozens of firms gotten out of the ham market? Why have dozens & dozens of firms gone out of business? Trying to support a market that just is not big enough to provide the sales and profit to survive! The only reason the biggies Kenwood, Yaesu, Icom, etc. are in the Amateur radio market is because they have a management team that are hams, have a love for the amateur and have enough commercial business to finance and bankroll the amateur effort! Let their commercial business get in trouble or profits shrink... which segment do you think they will dispose of? Yep, amateur! Just as many others have done so in the past (Collins, Johnson, Drake, etc., etc.). An announcement was just made a few weeks ago by another for these reasons.... was I disappointed because they pulled a leading edge technology out of the amateur market, YES! Do I understand? Damn sure do... been there, done that! Was it a technology that parallels our firm? Yes! Digital RF! Not FHSS but nevertheless....

These kind of inconsiderations and attitudes as expressed by Hamish, Jeff & a few others (thanks for these types being of a minority) makes it very difficult for those of us who do care and will do what we can for the amateur community but have an uphill climb to convince those in our firms that are higher in seniority and can override us when we do go in and ask for something for the amateur community. The first thing they usually do is say: "You want me to do whatever with all the BS and negatives being thrown at you or our company from the amateurs? But boss, they are a minority.... yes Paul, but the public remembers all the bad and forget the good! We don't need it... go away and bring me something that will turn an immediate profit, right now and make our stock holders happy and so I can grow the company, ad infinitum, etc.!"

This is what bugs me about some folks... they look at ONLY a small segment of something and do not even consider the bigger, overall picture!!

Man, did I get up on a soap box, or what?

Best regards,

Paul McInnish - K4BET
Cirronet, Inc. (formerly Digital Wireless)

----- Original Message -----
From: "Hamish Moffatt" <hamish@cloud.net.au>
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Sent: Friday, June 29, 2001 9:20 AM
Subject: [ss] Re: SS,Amature Radio

: On Thu, Jun 28, 2001 at 12:45:19PM -0700, Shawn T. Rutledge wrote:
: > On Thu, Jun 28, 2001 at 10:59:02AM -0400, Paul McInnish wrote:
: > > OK, Jeff, you bucket mouth, sanctimonious lid and self appointed amateur
: > > radio/internet cop, here is some more "commercializing"...
: >
: > I think we've had enough of your personal attacks.  I can't see that
: > Jeff did a whole lot to provoke this; only noticed that you present a
: > "dangling carrot" - products which might be useful if only they were
: > modified a little, but your company won't sell them to us anyway.
:
: Yes; to be fair, Paul said just a couple of days ago that their
: products cannot be modified for use in the amateur band (or at
: least, they won't do it). So I wonder why Paul thinks they are
: of continual interest to amateurs on this list.
:
:
: Hamish
: --
: Hamish Moffatt VK3SB <hamish@debian.org> <hamish@cloud.net.au>
:
: ---
: You are currently subscribed to ss as: k4bet@digital-wireless.com
: To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
:

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 46. [ss] Re: SS,Amature Radio

From: "Paul McInnish" <k4bet@cirronet.com>
Date: Fri, 29 Jun 2001 11:59:44 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-21282-2001.06.29-11.17.45--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Chris... right on!  Yep!

(Jeff, please note... here is another commercialization... by me)

The length, speed and content of the hopset can be modified in our radio via the configuration software we provide with the radio (not to mention a few hundred other parameters that can be modified).

Best regards,

Paul McInnish - K4BET
Cirronet, Inc. (formerly Digital Wireless)

----- Original Message -----
From: "Chris Anderson" <Chris_Anderson@grayhill.com>
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Sent: Friday, June 29, 2001 11:26 AM
Subject: [ss] Re: SS,Amature Radio

: A "Standard" is a propriatary solution that a very big company forced on a given
: market. It seems to me that if your making WLAN cards for under 100 meters under
: 100mW and under $200 802.11 aint bad. Thats typical consumer office product
: fare. We don't make office products. We sell to a different market who's needs
: are different. They want different things because they have a different
: application. Thus, for our market 802.11 isn't suitable. It's simply a

matter of
: don't try and use an HT for EME, you might hear something but you sure
can't
: count on it.
:
: I've been pondering creating a standard for FHSS actually but it's not
real high
: on the priority list. Another thing to keep in mind is that what a ham
wants in
: a SS radio is different from what many of our users want. For instance if
I was
: buying a SS radio for ham radio use, I'd expect to be able to alter the
length,
: speed and content of the hopset. Our customers want very very simple
interfaces
: with "as few things to mess with" as possable. A ham of course wants to
mess
: with EVERYTHING! 8) as it should be.
:
:
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:
:
:
:
: Hamish Moffatt <hamish@cloud.net.au> on 06/29/2001 08:19:23 AM
:
: Please respond to "TAPR Spread Spectrum Special Interest Group"
:       <ss@lists.tapr.org>
:
:
:
:
:
:
:
:
:  To:      "TAPR Spread Spectrum Special Interest Group"
:           <ss@lists.tapr.org>
:
:  cc:      (bcc: Chris Anderson/NPD/GHI)
:
:
:
:  Subject: [ss] Re: SS,Amature Radio
:
:
:
:
:
:
:
:
: On Thu, Jun 28, 2001 at 10:15:47AM -0500, Chris Anderson wrote:
: > In our opinion, in general 802.11 isn't a good idea for reliable long
range
: > communicaitons. HEY! DO NOT FLAME ME ABOUT 802.11 I have no intrest in
holy
: war.
: > I'm just explaining why WE chose not to be 802.11, our customers
ususally want
: > long range, thus the trade off.
: >
: > I don't know off hand if the 802.11 FHSS PHY definition says something
similar
: I
: > suspect it does but ye'd want to look it up.
:
: Don't you think that standards-compliance is in the best interests of
: the customers, though? It's to the customers' advantage if they can mix
: products from different vendors, and that requires a standard like
: 802.11. Otherwise they are locked in to your products. Something your
: marketing department is probably quite happy with?
:
:
: Hamish
: --

: Hamish Moffatt VK3SB <hamish@debian.org> <hamish@cloud.net.au>
:
: ---
: You are currently subscribed to ss as: chris_anderson@grayhill.com
: To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
:
:
:
:
:
: ---
: You are currently subscribed to ss as: k4bet@digital-wireless.com
: To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
:


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 47. [ss] Re: SS,Amature Radio

From: Jeff King <jeff@aerodata.net>
Date: Fri, 29 Jun 2001 14:53:19 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-21324-2001.06.29-14.13.13--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Paul McInnish wrote:
>
> Chris... right on!  Yep!
>
> (Jeff, please note... here is another commercialization... by me)

How is that?

-Jeff

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 48. [ss] Re: SS,Amature Radio

From: Jeff King <jeff@aerodata.net>
Date: Fri, 29 Jun 2001 19:16:55 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-21357-2001.06.29-18.36.35--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Paul McInnish wrote about Cirronet's mortal enemy, Jeff King, in a message
to Hamish on 6/29/01:


> contrary to what Jeff thinks

Yes indeed Paul, why don't you tell everyone here what *I* think. I don't seem
to even know myself.


> you would read some of my previous flames when I was madder than all get out
> @ Jeff...

Was it the the lack of coffee that day or did you figure out yet why you were mad at
me?  I still haven't figured it out myself. Did I run your dog over or something?


 (on the claimed demise of amateur radio manufacturing (which btw, we have more now
then ever, but don't want to break that illusion you hold))

> These kind of inconsiderations and attitudes as expressed by Hamish, Jeff &
> a few others (thanks for these types being of a minority) makes it very
> difficult for those of us who do care and will do what we can for the
> amateur community but have an uphill climb to convince those in our firms
> that are higher in seniority and can override us when we do go in and ask
> for something for the amateur community.

Are you serious? I assure you I had nothing to do with Collins, Drake, Johnson or
any other firm pulling out of the market. I don't even know you, and I doubt if
Hamish does either. However, I do appreciate the thought of the world domination
I hold over amateur radio manufacturing from my garage here in Farmington. Come to

think of it, I was also blamed in 1985 for the 500 point slip of the Dow. You heard
of that also? I did hear a rumor that Hamish caused the Asian markets to collapse
a few years ago, he had said something negative about Dick Smith Electronics, any idea
if that is true?


 (on trying to sell amateur radio to your firm)

> The first thing they usually do is
> say:  "You want me to do whatever with all the BS and negatives being thrown
> at you or our company from the amateurs?  But boss, they are a minority....

Well, besides the fact you are your own worst enemy in regards to selling amateur
radio to your firm (for a product) I can say this:

Give me your bosses e-mail and I'd be happy to forward the positive things I said
about your company. I've not said anything negative, and at worst, just gave you
some ideas to improve the product. I've never seen anyone on here say anything
negative about your company ... maybe I missed it,
but what in the heck is going on with you? I'm certainly game to debate you if that
is what you are trolling for, but give us a premise that has some basis in fact,
better yet, do it in private e-mail.

But for a real challenge, go on isp-wireless@isp-wireless.com list and try
acting the way you are now. I don't see you on there flaming Judd Dare who just
recently responded negatively to a trial of your equipment (and I don't happen to
agree with him either). Yet your on a amateur radio list fighting your apparent
holy war to defend your companies honor. You have nothing to defend here as no-one has
wronged you. Your anger would be better spent on that other list, at least there would
be some justification for it.


> So, you want me and my
> company to go away, if that is what you and the majority want, then I'll go
> in & talk with our CEO and we can change ALL these things as related to
> amateur radio.

First of all, you need to chill out. You took one thing I said, heard it as you wanted to,
and have been running with it ever since. The only one that ever said they wanted you
to leave was yourself.  If you actually would have taken the time to read my response, you
would have seen I have been very complimentary about your company.... go back and read
my earlier comments. (one of which I attached at the bottom)

If you can't accept that, and if all you want to do is vent, can I suggest you just do it
in private e-mail instead of using this list for whatever twisted personal vendetta you
have? Frankly I don't even know you, and for the life of me don't know what I did to you
or your company to cause such a bizarre reaction from you.


> This is what bugs me about some folks... they look at ONLY a small segment
> of something and do not even consider the bigger, overall picture!!

Advice you might want to take yourself.

> Man, did I get up on a soap box, or what?

And I'm sure everyone on the TAPR Spread Spectrum mailing list was glued to their seats
reading it all. I wonder how many have unsubscribed?


-Jeff



Jeff King wrote on 6/27/01:
>
> Paul McInnish wrote:
>
> > Dog gone it, our radios will not tune down (actually they will, but firmware
> > controlled and we are not going to let anyone have the code to modify the
> > radio firmware).
>
> As you well shouldn't, being that is how you make your money. However, how about
> walking over to your software group and asking them how hard it would be to do
> this? Might be a nice contribution Cirronet can make to amateur radio. One way
> to sell this (trivial?) modification to management would be to explain to them it
> would give them a pool of RF literate beta testers that would actually purchase
> the equipment.
>

> > However, seeing as how ours are in the ISM band, you can
> > use them legally!  We have ALL the FCC, ETSI, Industry Canada & CE
> > certifications!
>
> Yes, under Part 15 but not Part 97? I think your units are frequency hoppers,
> and they may visit the non amateur part of the ISM in their stock configuration.
>
> Changing gears...
>
> Say, have you given any thought to my idea of making a 900mhz WISP version? I really
> like Cirronet's vision with regards to a CPE unit for the WISP market. As far
> as I am concerned, you are the only company that is truly making a WISP product
> and not a warmed over WLAN product. A 900mhz hopper, would making deployment in
> truly rural areas much easier. Give it some thought, I think your old company
> already had a 900mhz hopper although I'm not sure if it was in the ISDN speed
> class (128K-256K).
>
> Regards,
>
> Jeff wb8wka
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 49. [ss] Re: SS, Amateur Radio

From: "Steve Stroh" <lists@strohpub.com>
Date: Fri, 29 Jun 2001 16:20:51 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-21358-2001.06.29-18.42.44--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Paul's postings SHOULD be of interest to all Amateurs interested in Spread
Spectrum because his company's products are a close commercial fit to what
could be accomplished in Amateur Radio using Frequency Hopping Spread
Spectrum.

In my professional capacity, writing full-time about Broadband Wireless
Internet Access, I've watched Cirronet evolve its product into one of the
very few wireless systems that's truly suitable for small Internet Service
providers. Cirronet _thoroughly_ worked through the various problems, both
RF and non-RF and their system is good.

Paul's actually let slip a few details in his postings that I haven't been
able to get from my official interviews with the company, including one with
Cirronet's CEO a few days ago. You're getting some real insider,
been-there-done-that perspective here, folks.

Over the next few years, as Editor of TAPR's Packet Status Register
newsletter, I can say that the PSR will be devoting a lot of space to trying
to learn lessons from companies with innovative products like Cirronet's in
order to gain some ideas and perspective for what could be done in Amateur
Radio.

Paul, for the record, let me add MY voice to the chorus for you not to
unsubscribe from ss; we've lost too many worthy voices already, and your
contributions have proven to be particularly relevant and valuable.

Thanks,

Steve Stroh N8GNJ
Editor, TAPR Packet Status Register newsletter


--
Steve Stroh   steve@strohpub.com  425-481-0600  ICQ 68879994
Independent Technology Writer
Specializing in Broadband Wireless Internet Access
Focus on Broadband Wireless Internet Access newsletter -
http://www.strohpub.com/focus.htm


> -----Original Message-----
> From: bounce-ss-4757@lists.tapr.org
> [mailto:bounce-ss-4757@lists.tapr.org]On Behalf Of Hamish Moffatt
> Sent: Friday, June 29, 2001 06:20
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: SS,Amature Radio

> 
> Yes; to be fair, Paul said just a couple of days ago that their
> products cannot be modified for use in the amateur band (or at
> least, they won't do it). So I wonder why Paul thinks they are
> of continual interest to amateurs on this list.
> 
> 
> Hamish
> --
> Hamish Moffatt VK3SB <hamish@debian.org> <hamish@cloud.net.au>
> 

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 50. [ss] Re: SS,Amature Radio

From: "J.R. Marlow" <jr@skyhop.net>
Date: Fri, 29 Jun 2001 20:34:24 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-21383-2001.06.29-20.52.23--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Maybe I am missing something.
We have successful 27 mile hops using. DSSS 802.11 gear. 30db narrow beamwidth antennas and 500mw amps. Throughput is not an issue if your RSSI is good. Interference or jamming is not a problem because the antenna beamwidth is only 7 deg. What did they add to the 802.11 spec that limits this over distance? Please explain further.

J.R.

-----Original Message-----
From: bounce-ss-18540@lists.tapr.org
[mailto:bounce-ss-18540@lists.tapr.org] On Behalf Of Paul McInnish
Sent: Thursday, June 28, 2001 9:59 AM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] Re: SS,Amature Radio


Ryan... a couple of comments....

Two issues you will run into with the 802.11 link and those are....

1.  Even at two miles, the "string" is stretched way beyond the intent of 802.11 product and your data thru-put will be slower - as we say here in Jawja - than molasses!  10 miles, even if you used 25 - 35 dBi parabolic dishes will suffer even more thru-put slow down... if you can make a link.

2.  The other issue and even with the 2 mile hop... remembering that 802.11 products are theoretically built around a 'standard' that will allow other manufacturers products to talk to each other and the chances of other 802.11 devices, of every conceivable type, being anywhere near a extended path such as your 2 mile path are really highly likely and you will have so much jamming going on that the apparent data thru-put, at times, will be non-existent or slower than "molasses" (we have run tests here in metro Hotlanta and found this to be true... with much, much shorter paths than your 2 miles).

OK, Jeff, you bucket mouth, sanctimonious lid and self appointed amateur radio/internet cop, here is some more "commercializing"...

This is some of the many reason's our firm and several other competitive firms that are in the digital RF data transceiver business choose NOT to buy into the 802.11 standard.

Best regards,

Paul McInnish - K4BET

----- Original Message -----
From: "Ryan Wilkins" <ryan@cajun.deadfrog.net>
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Sent: Thursday, June 28, 2001 10:12 AM
Subject: [ss] Re: SS,Amature Radio

: Just for my own curiosity, what kind of restrictions does 802.11
impose on
: packet turn around to limit range?  I, and a group of friends, am
trying to
: setup a wireless point to point link using 2mbps 802.11 FHSS PC-Cards.
We were
: able to get the devices linked at 2 miles. We're trying for 10 miles
but that
: may be too much of a stretch, not to mention a lot of free space
attenuation
: along with god knows what else in the way.  We may make the move to
DSSS cards
: instead but I dont know that it will really help us any.
:
: In a different experiment a year or two ago, we tried running a 2Mbps
link 6
: miles but never could close the link 100%.  We were constantly showing
packet
: losses anywhere from 30% to 70%.  I had several thoughts of what could
have
: contributed to the problem but never really investigated it much
further.
:
: Ryan Wilkins
: N8YHV
:
: On Wed, 27 Jun 2001, Chris Anderson wrote:
:
: > I'm afraid I'm locked up with work. I've got 3 projects already so I
never have
: > time to do anything outside work.
: >
: > As for our 2.4Ghz radio, it's a 2mbps QPSK radio. It's not actually
802.11 as
: > 802.11 places some restrictions on packet turnaround that limit
range while our
: > product is designed for 5+ mile links. I was pondering putting a PLL
on the
: > Gunns at one time just fer grins but I never got aroud to it.
: >
: >
: >
: >
: >
: >
: >
: > Kerry Banke <kbanke@qualcomm.com> on 06/27/2001 11:34:20 AM
: >
: > Please respond to "TAPR Spread Spectrum Special Interest Group"
: >       <ss@lists.tapr.org>
: >
: >
: >
: >
: >
: >
: >
: >
: >  To:      "TAPR Spread Spectrum Special Interest Group"
: >           <ss@lists.tapr.org>
: >
: >  cc:      (bcc: Chris Anderson/NPD/GHI)
: >
: >
: >
: >  Subject: [ss] Re: SS,Amature Radio
: >
: >
: >
: >
: >
: >
: >
: >
: > Chris  - Thanks for thereply - The 10 Ghz portion of such a project
is my
: > strong suite as I have been hosting the San Diego Microwave Group
for over

: > 14 years now & maintain a pretty decent home lab for working up
through 12
: > Ghz.  I have access to lot's of Qualcomm scrap for which I have
developed
: > conversion procedures to produce synthesized  10 GHz transverters
with 1 dB
: > noise figure and 1W output.  These units of course solve all of the
: > frequency drift problems as well as are much higher performance all
around
: > than the GUNN units.   The bandwidth of the transverters can be just
about
: > anything we'd possibly need (100 MHz+).  If you'd be interested in
getting
: > together on making a 10 Ghz wideband link, I'd be interested in
working
: > with you.  If you already have a pair of 802.11 radios that you'd
like to
: > put on 10 GHz, I'll be happy to make up a pair of  10 Ghz
transverters to
: > match.  Is the 802.11 simplex or full duplex?  I haven't tried
configuring
: > one of the 10 GHz transverters for full duplex but don't see why
that
: > shouldn't be possible. I've got some committments through the Summer
for
: > some Ham  microwave activities but could work on such a project this
fall.
: >  - Kerry N6IZW
: >
: > At 10:54 AM 6/27/01 -0500, you wrote:
: > >I haven't been paying much attention to the PCMCIA cards raelly as
they're all
: > >pretty much one of the Prism chipsets.  I have some generics that
have reverse
: > >MMCX connectors on them but I haven't done much with them. If I
were you I'd
: > >pick up one of the 802.11 Breezecom radios and rip it apart. They
usually
: > >have a
: > >conn inside for the antennas. If I were me of course I'd just use
our radio as
: > >it's got a reverse TNC. I don't expect your looking for a router
though.
: > >
: > >
: > >10GHz eh? I've been bulding this N6GN microwave data link project
now for
: > about
: > >4 years 8) I just picked up some 24GHz MA/COM Gunns to try. I have
a pair of
: > >10GHz as well but I never quote seem to get time to mess with it.
: > >
: > >
: > >
: > >
: > >
: > >
: > >
: > >
: > >Kerry Banke <kbanke@qualcomm.com> on 06/27/2001 10:11:20 AM
: > >
: > >Please respond to "TAPR Spread Spectrum Special Interest Group"
: > >      <ss@lists.tapr.org>
: > >
: > >
: > >
: > >
: > >
: > >
: > >
: > >
: > >
: > >
: > >
: > > To:      "TAPR Spread Spectrum Special Interest Group"
: > >          <ss@lists.tapr.org>
: > >
: > > cc:      (bcc: Chris Anderson/NPD/GHI)

: > >
: > >
: > >
: > > Subject: [ss] Re: SS,Amature Radio
: > >
: > >
: > >
: > >
: > >
: > >
: > >
: > >
: > >I've been following the recent email on the reflector & woud like
to
: > >consider taking a pair of  cheap 2.4 GHz  802.11 SS radios and
translate
: > >them to  the 10 GHz Amateur band. What units are low cost and will
provide
: > >an external antenna jack that I can use to connect to a
transverter?
: > >Frequency doesn't matter as I can make the transverter match
anything I
: > >want.  I've seen the Syncbyair PCMCIA  2.4 GHz units on Ebay but
don't know
: > >if thay have external antenna connections available or If they
present any
: > >other special problems.  Any input on this would be appreciated.
: > >
: > >At 09:44 AM 6/27/01 -0500, Chris Anderson wrote:
: > >>I'd like to add my voice to the Jeffs's there, don't give up. I
haven't
: > made a
: > >>contact for years but as I develop SS radios for a living I still
hold out
: > >hope
: > >
: > >
: > >---
: > >You are currently subscribed to ss as: chris_anderson@grayhill.com
: > >To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
: > >
: > >
: > >
: > >
: > >
: > >---
: > >You are currently subscribed to ss as: KBANKE@QUALCOMM.COM
: > >To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
: > >
: >
: >
: > ---
: > You are currently subscribed to ss as: chris_anderson@grayhill.com
: > To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
: >
: >
: >
: >
: >
: > ---
: > You are currently subscribed to ss as: RYAN@DEADFROG.NET
: > To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
: >
: >
:
:
: ---
: You are currently subscribed to ss as: k4bet@digital-wireless.com
: To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
:


---
You are currently subscribed to ss as: jr@skyhop.net
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 51. [ss] Re: SS,Amature Radio

From: Hamish Moffatt <hamish@cloud.net.au>
Date: Sat, 30 Jun 2001 12:20:23 +1000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-21386-2001.06.29-21.41.01--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Fri, Jun 29, 2001 at 11:54:04AM -0400, Paul McInnish wrote:
> Hamish... (to quote your response: "So I wonder why Paul thinks they are of
> continual interest to amateurs on this list.") of considerable interest
> because we do support amateur radio - contrary to what Jeff thinks - and if
> you would read some of my previous flames when I was madder than all get out
> @ Jeff... you'll read where we have donated, provided and supplied tons of
> radios to the amateur community!  Provided a lot of money to support various
> 'things', etc., etc., etc., etc.  As we carry on this diatribe, our radios
> are being used right now, in many many NON commercial amateur
> applications!!!!!  Another reason... when I threatened to unsubscribe... I
> got tons of e-mail asking me to 'stick around' and continue contributing in
> what little infinite small way I or my firm could!

Sorry Paul.. my mistake. However you did say recently:

"Dog gone it, our radios will not tune down (actually they will,
but firmware controlled and we are not going to let anyone have the
code to modify the radio firmware)".

... which made me wonder what the amateur connection was.

Is an amateur better off operating SS under part 15 or part 97?
I haven't followed all the arguments (especially as it doesn't
apply to me, as I live in Australia), but it sounds like part 15
gives you a larger band but lower maximum power.

Hamish
--
Hamish Moffatt VK3SB <hamish@debian.org> <hamish@cloud.net.au>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 52. [ss] Re: SS,Amature Radio

From: Gerry Creager N5JXS <gerry@cs.tamu.edu>
Date: Fri, 29 Jun 2001 21:50:26 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-21390-2001.06.29-22.12.25--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

What you missed is acommon misconception amongst users of 802.11(x)
gear.  There are different variants of it.

There's the local access point variant.  Variable (and various) power
levels and authentication schemes.

There's the ethernet wireless bridge.  Yagis are allowed, as are other
more esoteric and functional antennae for the frequency... if not the
bandwidth.

There are significant variations in encryption and security, none very
effective at this point, unless you preencrypt before submitting to the
ethernet port.

We are currently accomplishing an 11 mile link with one hop due to path
obscuration. We plan to establish another over a 16 mile path, single
hop.  The primary limits are obscuration and interference.

Note:  If you superimpose a 2.4 GHz cordless phone directly in your
path, your margin may go down the tubes precipitously...  and putting
one near an access point is just plain silly.

Throughput can be affected by load, signal strength, multipath
interference and congestion.  I'll assume jamming is not a real issue
_yet_ but I'm on a university campus where you never know what the kids
might just do for sport!

73, gerry
--
"J.R. Marlow" wrote:
>
> Maybe I am missing something.
> We have successful 27 mile hops using. DSSS 802.11 gear. 30db narrow
> beamwidth antennas and 500mw amps. Throughput is not an issue if your
> RSSI is good. Interference or jamming is not a problem because the
> antenna beamwidth is only 7 deg. What did they add to the 802.11 spec
> that limits this over distance? Please explain further.
--
Gerry Creager -- gerry@cs.tamu.edu
Network Engineering                     |Research focusing on
Academy for Advanced Telecommunications |Satellite Geodesy and
and Learning Technologies               |Geodetic Control
Texas A&M University    979.458.4020  (Phone) -- 979.847.8578  (Fax)

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 53. [ss] Re: SS, Amateur Radio

From: Devin Butterfield <dbutter@wireless.net>
Date: Sat, 30 Jun 2001 01:19:48 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-21412-2001.06.30-03.37.31--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Friday 29 June 2001  4:20, you wrote:
> Paul's postings SHOULD be of interest to all Amateurs interested in Spread
> Spectrum because his company's products are a close commercial fit to what
> could be accomplished in Amateur Radio using Frequency Hopping Spread
> Spectrum.

Yeah, I guess you're right. It's too bad that paul is proving himself to be a
complete asshole.

> Paul's actually let slip a few details in his postings that I haven't been
> able to get from my official interviews with the company, including one
> with Cirronet's CEO a few days ago. You're getting some real insider,
> been-there-done-that perspective here, folks.

Oh, please. So we should all tolerate this man (boy) and his temper tantrums
because he supposedly has information we need?


> Paul, for the record, let me add MY voice to the chorus for you not to
> unsubscribe from ss; we've lost too many worthy voices already, and your
> contributions have proven to be particularly relevant and valuable.

This is essentially telling paul that it's ok to flood this list with flames
and other nonsense whenever he feels like it, because he is too valuable to
lose.

Look, I'm not attacking you Steve, but I think that tolerating this kind of
behavior is very bad policy for a public mailing list. Everyone, no matter
how "relevant and valuable" their posts may be perceived, should be
respectful of others. This means having a little self control (anger
management).
--
Regards, Devin.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 54. [ss] Re: SS, Amateur Radio

From: John Koster <w9ddd@tapr.org>
Date: Sat, 30 Jun 2001 08:25:12 -0500 (CDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-21427-2001.06.30-08.45.38--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thank goodness someone finally fixed the spelling of Amateur.

John Koster, W9DDD
<w9ddd@tapr.org>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 55. [ss] Re: SS, Amateur Radio

From: Mike Rafferty <mraff@zoomnet.net>
Date: Sat, 30 Jun 2001 10:04:09 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-21435-2001.06.30-09.24.07--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Might have been more appropriate to the thread if it had been AMANURE!

Mike, N8CUG

John Koster wrote:

> Thank goodness someone finally fixed the spelling of Amateur.
>
> John Koster, W9DDD
> <w9ddd@tapr.org>
>
> ---
> You are currently subscribed to ss as: MRAFF@ZOOMNET.NET
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 56. [ss] Re: SS,Amature Radio

From: "Paul McInnish" <k4bet@cirronet.com>
Date: Thu, 28 Jun 2001 09:16:31 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-21440-2001.06.30-09.45.20--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Jeff... Bull $#&%, I HAVE NOT BEEN PROMOTING OUR PRODUCTS! You asked questions and I responded to them, in detail! If you did NOT want detailed answers or want the world to see the answers, you should have asked OFF LINE and I would have responded OFF LINE!

Another point... by giving detailed answers for the world to see... there is always a slim chance that someone may learn there is more than one way to do something... some other application... some other need... Yes, I - and here comes another push for my company as you would see it - support amateur radio! I... we (here is another "promotion as you would see it"), have donated tons of product to various amateur radio groups for use in such applications as repeater control (point - to - point & point - to - multipoint of various remote receiver sites, etc.), balloon chase groups, data logging for public service events (parades, charity drives that amateur radio operators provide communications for, etc.). We (the company) bought and paid for and pay the monthly bills for a repeater and some remote sites, etc., etc., etc. And I did not want to mention it but I asked the Engineering group to investigate some way the products could be shifted to use the Part 97 bands and somehow keep us out of trouble in the Part 15 bands... they agreed! I can assure you, that push just stopped at my direction! You happy??

This is last and final response to you in public! I resent your chastisement in public! I do not want to see any more reference by you about me or my company in public! You are the kind of loud mouth that cause companies like ours to turn away from providing any support of any kind to amateur radio! The almighty self appointed police of the airways and internet!

For the benefit of those that may read all of my above diatribe, I apologize to you and now that my anger has calmed down... this is my last post - of any kind - to this list!

Paul McInnish

----- Original Message -----
From: "Jeff King" <jeff@aerodata.net>
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>

Sent: Wednesday, June 27, 2001 6:32 PM
Subject: [ss] Re: SS,Amature Radio

:
:
: Paul McInnish wrote:
:
: (on suggesting cirronet support amateur radio use of their product)
:
: > 4th.... Our fastest growing segment of our business is the WISP
business!
: > We only sell to (financially sound) ISP's & Telco's.
:
: OK, sorry, didn't think I was out of line asking as this is a amateur
radio list and
: you have been posting promoting your companies products here.
:
:
: -Jeff
:
:
:
:
: >Paul McInnish - K4BET
: >Manager, Business Development
: >Cirronet, Inc. (formerly Digital Wireless)
: >5375 Oakbrook Parkway
: >Norcross, GA 30093, USA
: >
: >Direct Phone: 678.684.2011
: >Fax: 678.684.2001
: >Cell Phone: 678.429.2124
: >
: >Web site: http://www.cirronet.com
:
: ---
: You are currently subscribed to ss as: k4bet@digital-wireless.com
: To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
:

---
You are currently subscribed to ss as: tlang@freeway.apana.org.au
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 57. [ss] Re: SS, Amateur Radio

From: "Steve Stroh" <lists@strohpub.com>
Date: Sat, 30 Jun 2001 09:54:21 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-21453-2001.06.30-12.16.28--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Devin:

If MY record was absolutely spotless regarding inappropriate responses on a public list, I might have been tempted to be more critical. But it's not, and sometimes we're all just a bit too human when someone says or does something that rubs us the wrong way. Later, we wish we hadn't done that, but too late, it's in public, in its full glory, for as long as the archives last. So, we go on, having endured another abject lesson in being only too human.

If the point of this list is to learn about Spread Spectrum technologies as could be applied to Amateur Radio (the reason I'M here), then I think that, on balance, Paul's postings have been more valuable than not. I'm on a number of lists where it's important that I be there because I can't get that information in any other place. So, no matter how obnoxious some of the inmates, er, posters can get, I put up with it because, on balance, there's far more "signal" than "noise". In such a case where there are only a few that are obnoxious, the worst of them can easily be filtered out and I don't see any of their postings. On some lists, the noise/signal ratio rises above my threshold, and I unsubscribe.

That Cirronet doesn't sell to Amateurs doesn't concern me at all. Neither
does Motorola, Ericsson, EF Johnson, Ritron, etc. The main point is that we
can learn some lessons why Cirronet made the technical decisions they did
with their Spread Spectrum product, and how they made it low cost, high
speed, robust (to interference), etc. I'd HAPPILY tolerate mention of other
commercial, non-Amateur spread spectrum products on this list if the poster
made a similar effort to explain why they did things the way they did.

Thanks,

Steve

--
Steve Stroh  steve@strohpub.com  425-481-0600  ICQ 68879994
Independent Technology Writer
Specializing in Broadband Wireless Internet Access
Focus on Broadband Wireless Internet Access newsletter -
http://www.strohpub.com/focus.htm


> -----Original Message-----
> From: bounce-ss-24593@lists.tapr.org
> [mailto:bounce-ss-24593@lists.tapr.org]On Behalf Of Devin Butterfield
> Sent: Saturday, June 30, 2001 01:20
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: SS, Amateur Radio
>
> Yeah, I guess you're right. It's too bad that paul is proving
> himself to be a
> complete @#$%^&*. [edited- N8GNJ]
>
> Oh, please. So we should all tolerate this man (boy) and his
> temper tantrums
> because he supposedly has information we need?
>
> This is essentially telling paul that it's ok to flood this list
> with flames
> and other nonsense whenever he feels like it, because he is too
> valuable to
> lose.
>
> Look, I'm not attacking you Steve, but I think that tolerating
> this kind of
> behavior is very bad policy for a public mailing list. Everyone,
> no matter
> how "relevant and valuable" their posts may be perceived, should be
> respectful of others. This means having a little self control (anger
> management).
> --
> Regards, Devin.
>


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 58. [ss] Re: Re: SS, Amateur Radio

From: "Chuck Hast" <kp4djt@tampabay.rr.com>
Date: Sat, 30 Jun 2001 19:25:07 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-21470-2001.06.30-18.45.42--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I believe that as Steve said, we have allowed our humanity to show all to
much.  Each side had valid points on the other, but in the end what we
ended up with was a bitter pissing contest in which each side took offense
at the other and now we have dripping bitterness on the list.

Paul has stated with pride some very interesting points about is product,
and indeed a produce for which he is proud to represent, and as several
have pointed out is a very good product, indeed though it uses proprietary
protocols, it gets the job done in a excellent fashion.

Agreed there was some "carrot dangling" done, and at times I felt that it may
have been a but too commercial but pardoned it because as was pointed out
there was some very good data and not even buried deep (Paul you put a lot
more out about your product than many would expect for a proprietary product)

Folks, here is my cure for the fast punch on the keyboard, I carry a 45 calibre bullet in my coin wallet, and when I run into something that I want to either exact my ire on via the keyboard or by my big mouth or other more radical means, I pull that bullet out and BITE on it, big time (one of these days I am going to break a tooth doing that) and usually after clinching on it a bit I have cooled down to the point of not retaliating.

The trick is to redirect that energy that you were going to direct to flying fingers, flapping lips, a fist or other obnoxious ways of getting your point across, then after you have taken that energy out on something that will not cause so much damage (cat, dog, kid, wall, rock, etc. you make your choice) you can usually set down and make your points without being toxic and obnoxious.

I would hope that we can see some exchange of niceties and get on about spread spectrum.

Those that took abrasion at Paul, I can understand why, but at the same time he has made some very valid points, making the information very valuable.

Paul I can send you a 45 calibre bullet, you are very proud of the company you work for, and the hits I know were felt, but you too should take it out on something beside the keyboard THEN after things have settled down you can usually make a clearer less violent assessment of the issue. I know of others who have been the brunt of similar situations, they have done a lot of things for the amateur community, but they still get hung out to dry (I personally have the tee shirt with the bullet holes) by some who do not know all the facts( Had one turkey here in Tampa tell me that I had skeletons in my closet when I challenged him on some improper operations such as purchasing packet equipment from a out of area manufacturer when there where TWO right here in they bay area who would have given the gear to the county, that gear still does not work and he is no longer active in amateur radio, I just took my skeletons out looked them over and put them back where they belonged, and dropped it, it was better than a fire fight.)

I have seen post from all involved on both sides of this argument, I am talking about post prior to this flare up, and they were all very valid and had good information in them, I would not want to see ANY of you leave the list over this... Sooo...

Folks can't we just get a long and please lets get back to SS and exchanging data on this very valid part of our hobby... I have a LASER list waiting so shall go over there for now....

Chuck Hast e-mail kp4djt@tampabay.rr.com

---- FPAC ----
www.qsl.net/fpac/

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 59. [ss] Re: SS, Ricochet, etc

From: N8BLK@aol.com
Date: Sat, 30 Jun 2001 23:09:23 EDT
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-21507-2001.06.30-22.29.57--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

In a message dated 6/26/2001 19:46:08 Eastern Daylight Time, kb9mwr@yahoo.com writes:

>[Don't confuse me for someone else Jeff.. Like I said I see no "real"
>difference between part 15 & 97 opperation. I'm still that 22 yr old
>who has lost most all interest in traditional amateur radio. I
>really could care less what other hams do.]

The difference between part 97 & 15 is that a part 15 user can't produce interference, and must accept any interference which crops up. If hams really want to reclaim the band, nothing stops said hams from using them, since not only can they use more power, but hams supposedly are not supposed to be interfered with by part 15 devices. It wouldn't take many hams operating on 900 communicating with other amateurs to make life just about impossible for part 15 devices. Of course, hams can't intentionally interfere with other services either, but they have no duty to protect folks they can't hear, and they can complain if part 15 devices interfere with them.

Another point to consider is that quite frankly, hams are about to lose most of the incredibly high RF bands they once had exclusive claim to, or had secondary assignments with no primary or a primary military user. At some point, hams are going to regret not making use of the bands for which equipment is now available, or could be cobbled together rather easily from commercial parts. The other point to consider is that part 97 usage is subject to limitations on what can be done with any equipment. One would probably lose one's license downloading some websites via amateur radio, even if a part 15 user on the same frequencies would not. Thus there are some advantages to being a part 15 user not available to a part 97 user.
-art clemons-

# July 2001

Original source file: ss.0107
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/ss.0107

## 1. [ss] FHSS vs. DSSS

From: Bato@tapr.org, Andras <bato44@matavnet.hu>
Date: Sat, 30 Jun 2001 19:29:42 +0200
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-21551-2001.07.01-04.51.16--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Colleagues,

I was told we should use DSSS here in Europe, while you are to use FHSS in the
USA.

Does anyone know why?

Andy
HA6NN
 --
Dixi et salvavi animam meam.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 2. [ss] Re: Re: SS, Amateur Radio

From: "Bobbie Johnson" <bobbiej@vnet.net>
Date: Sun, 1 Jul 2001 06:03:06 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-21553-2001.07.01-05.29.23--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

QSL  Steve,  ur 59 on this thread

glad to hear ur 20+ sig with such clarity and pse post agn.

Bobbie


----- Original Message -----
From: "Steve Stroh" <lists@strohpub.com>
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Sent: Saturday, June 30, 2001 12:54 PM
Subject: [ss] Re: SS, Amateur Radio


>
> Devin:
>
> If MY record was absolutely spotless regarding inappropriate responses on
a
> public list, I might have been tempted to be more critical. But it's not,
> and sometimes we're all just a bit too human when someone says or does
> something that rubs us the wrong way. Later, we wish we hadn't done that,
> but too late, it's in public, in its full glory, for as long as the
archives
> last. So, we go on, having endured another abject lesson in being only too
> human.
>
> If the point of this list is to learn about Spread Spectrum technologies
as
> could be applied to Amateur Radio (the reason I'M here), then I think
that,
> on balance, Paul's postings have been more valuable than not. I'm on a
> number of lists where it's important that I be there because I can't get
> that information in any other place. So, no matter how obnoxious some of
the
> inmates, er, posters can get, I put up with it because, on balance,
there's
> far more "signal" than "noise". In such a case where there are only a few
> that are obnoxious, the worst of them can easily be filtered out and I
don't
> see any of their postings. On some lists, the noise/signal ratio rises
above
> my threshold, and I unsubscribe.

> That Cirronet doesn't sell to Amateurs doesn't concern me at all. Neither
> does Motorola, Ericsson, EF Johnson, Ritron, etc. The main point is that
we
> can learn some lessons why Cirronet made the technical decisions they did
> with their Spread Spectrum product, and how they made it low cost, high
> speed, robust (to interference), etc. I'd HAPPILY tolerate mention of
other
> commercial, non-Amateur spread spectrum products on this list if the
poster
> made a similar effort to explain why they did things the way they did.
>
> Thanks,
>
> Steve
>
> --
> Steve Stroh   steve@strohpub.com  425-481-0600  ICQ 68879994
> Independent Technology Writer
> Specializing in Broadband Wireless Internet Access
> Focus on Broadband Wireless Internet Access newsletter -
> http://www.strohpub.com/focus.htm
>
>
> > -----Original Message-----
> > From: bounce-ss-24593@lists.tapr.org
> > [mailto:bounce-ss-24593@lists.tapr.org]On Behalf Of Devin Butterfield
> > Sent: Saturday, June 30, 2001 01:20
> > To: TAPR Spread Spectrum Special Interest Group
> > Subject: [ss] Re: SS, Amateur Radio
> >
> > Yeah, I guess you're right. It's too bad that paul is proving
> > himself to be a
> > complete @#$%^&*. [edited- N8GNJ]
> >
> > Oh, please. So we should all tolerate this man (boy) and his
> > temper tantrums
> > because he supposedly has information we need?
> >
> > This is essentially telling paul that it's ok to flood this list
> > with flames
> > and other nonsense whenever he feels like it, because he is too
> > valuable to
> > lose.
> >
> > Look, I'm not attacking you Steve, but I think that tolerating
> > this kind of
> > behavior is very bad policy for a public mailing list. Everyone,
> > no matter
> > how "relevant and valuable" their posts may be perceived, should be
> > respectful of others. This means having a little self control (anger
> > management).
> > --
> > Regards, Devin.
> >
>
>
> ---
> You are currently subscribed to ss as: BOBBIEJ@VNET.NET
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 3. [ss] Re: SS,Amature Radio

From: Gerry Creager N5JXS <gerry@cs.tamu.edu>
Date: Sun, 01 Jul 2001 06:57:31 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-21559-2001.07.01-07.19.36--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hamish Moffatt wrote:
>
> On Thu, Jun 28, 2001 at 10:15:47AM -0500, Chris Anderson wrote:
> > In our opinion, in general 802.11 isn't a good idea for reliable long range

> > communicaitons. HEY! DO NOT FLAME ME ABOUT 802.11 I have no intrest in holy war.
> > I'm just explaining why WE chose not to be 802.11, our customers ususally want
> > long range, thus the trade off.
> >
> > I don't know off hand if the 802.11 FHSS PHY definition says something similar I
> > suspect it does but ye'd want to look it up.
>
> Don't you think that standards-compliance is in the best interests of
> the customers, though? It's to the customers' advantage if they can mix
> products from different vendors, and that requires a standard like
> 802.11. Otherwise they are locked in to your products. Something your
> marketing department is probably quite happy with?

I've spent most of the time deleting these messages.  There are some
postings in this thread I've read... like yours.

There are some long range apps where it's worthwhile to ditch 802.11 and
look for another system, especially where you need more bandwidth than
is currently there.  802.11a will help alleviate problems, but won't fix
them all, especially if 300Mb bandwidth is your requirement.

And when you have to do that, the answer is one of a small number of
vendors with proprietary interfaces.  Not my favorite solution but one I
recognize as sometimes necessary.

73, gerry
--
Gerry Creager -- gerry@cs.tamu.edu
Network Engineering                     |Research focusing on
Academy for Advanced Telecommunications |Satellite Geodesy and
and Learning Technologies               |Geodetic Control
Texas A&M University    979.458.4020  (Phone) -- 979.847.8578  (Fax)

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 4. [ss] Re: FHSS vs. DSSS

From: Ryan Wilkins <ryan@cajun.deadfrog.net>
Date: Sun, 1 Jul 2001 21:06:41 -0400 (EDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-21665-2001.07.01-20.27.09--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I havent heard of any such rules.  There are a lot of both types of systems in
the USA.

Ryan Wilkins
N8YHV

On Sat, 30 Jun 2001 Bato@cajun.deadfrog.net wrote:

> Colleagues,
>
> I was told we should use DSSS here in Europe, while you are to use FHSS in the
> USA.
>
> Does anyone know why?
>
> Andy
> HA6NN
>  --
> Dixi et salvavi animam meam.
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 5. [ss] Re: SS, Amateur Radio

From: Stewart Teaze <horseshoe7@yahoo.com>
Date: Mon, 2 Jul 2001 10:25:58 -0700 (PDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-21771-2001.07.02-12.46.34--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Folks, here is my cure for the fast punch on the
> keyboard, I carry a 45 calibre

> bullet in my coin wallet, and when I run into
> something that I want to either
> exact my ire on via the keyboard or by my big mouth
> or other more radical
> means, I pull that bullet out and BITE on it, big
> time (one of these days I am
> going to break a tooth doing that) and usually after
> clinching on it a bit I have
> cooled down to the point of not retaliating.

????

I wouldn't worry about your teeth as much as I'd worry
about your hair falling out... In general, BULLETS are
made of LEAD.  I suppose what you probably really have
is an INERT CARTRIDGE that has had the lead BULLET
replaced by a STEEL bullet.

http://www.sightm1911.com/Care/45acp.htm

Good luck trying to get thru Airport security with
that thing.

Anyway, the fact that the generally uniformed public
refer to cartridges as bullets has always bugged
me.... I can't tell you how many times I've seen
HOLLYWOOD MOVIE POSTERS showing FULL CARTRIDGES FLYING
THRU THE AIR!!

_____
Do You Yahoo!?
Get personalized email addresses from Yahoo! Mail
http://personal.mail.yahoo.com/

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 6. [ss] Re: SS, Amateur Radio

From: wchast@utilpart.com
Date: Mon, 2 Jul 2001 14:00:05 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-21783-2001.07.02-13.21.59--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Yes you are right, it is the full cartridge with a
copper plated lead bullet. Actually I usually just
get it out and finger it for a bit, that is enough to
cool down...

Chuck Hast
Telecomms Consultant, Utility Partners.
WEB                     www.utilpart.com
Office number:          813.282.8828 x 1175
C-phone number:         813.765.6743
E-mail:                 wchast@utilpart.com
SMS  < 150 characters:  8137656743@mobile.att.net

To paraphrase my flight instructor;
"the only dumb question is the one you DID NOT ask resulting in my going out
and
having to identify your bits and pieces in the midst of torn and twisted
metal."

> -----Original Message-----
> From: Stewart Teaze [SMTP:horseshoe7@yahoo.com]
> Sent: Monday, July 02, 2001 13:26
> To:   TAPR Spread Spectrum Special Interest Group
> Subject:      [ss] Re: SS, Amateur Radio
>
>
> > Folks, here is my cure for the fast punch on the
> > keyboard, I carry a 45 calibre
> > bullet in my coin wallet, and when I run into
> > something that I want to either
> > exact my ire on via the keyboard or by my big mouth
> > or other more radical
> > means, I pull that bullet out and BITE on it, big

> > time (one of these days I am
> > going to break a tooth doing that) and usually after
> > clinching on it a bit I have
> > cooled down to the point of not retaliating.
>
> ????
>
> I wouldn't worry about your teeth as much as I'd worry
> about your hair falling out... In general, BULLETS are
> made of LEAD.  I suppose what you probably really have
> is an INERT CARTRIDGE that has had the lead BULLET
> replaced by a STEEL bullet.
>
> http://www.sightm1911.com/Care/45acp.htm
>
> Good luck trying to get thru Airport security with
> that thing.
>
> Anyway, the fact that the generally uniformed public
> refer to cartridges as bullets has always bugged
> me.... I can't tell you how many times I've seen
> HOLLYWOOD MOVIE POSTERS showing FULL CARTRIDGES FLYING
> THRU THE AIR!!
>
> _____
> Do You Yahoo!?
> Get personalized email addresses from Yahoo! Mail
> http://personal.mail.yahoo.com/
>
> ---
> You are currently subscribed to ss as: wchast@utilpart.com
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>
**********
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addressed. If you have received this transmission in error, please notify
the sender immediately and destroy any hard copies you may have printed and
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## 7. [ss] metricom in Chapter 11

From: "Eric S. Johansson" <esj@harvee.billerica.ma.us>
Date: Mon, 02 Jul 2001 16:43:36 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-21813-2001.07.02-16.04.19--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

"""Metricom  said in a statement it is working with its creditors to
restructure debt and will try to maintain its wireless network.
Monday's announcement follows a string of bad news from the struggling
company. Last Tuesday, Metricom cut 23 percent of its workforce. In March,
the company's stock slid after auditor Arthur Anderson expressed serious
concern about the high-speed wireless data company's ability to stay in
business. Earlier that month, Metricom's Chief Financial Officer James Wall
resigned.
"As a result of the depressed state of the capital markets, we have been
unable to raise necessary additional capital," said interim Chief Executive
Officer Ralph C. Derrickson in Monday's statement.
Metricom also said it appointed its outside advisor Kevin I. Dowd as chief
restructuring officer.
Before their halt on Monday afternoon, Metricom's shares were up 9 cents,
or 5 percent at $1.82."""

http://www.marketwatch.com/news/story.asp?siteid=yhoo&guid=%7BFFA11466%2DDB38%2D4003%2D9D33%2D5985C1E084
CA%7D&

Maybe we can just use the invisible hand of the market to cleanup our 900
MHz allocation (and get lots of cool surplus radios to boot).

--- eric


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 8. Your confirmation is needed (ok 6751)

From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Mon, 02 Jul 2001 17:04:27 -0500
To: lyris.ss@tapr.org
Message-ID: <LYR6751-21826-2001.07.02-17.04.27--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Your email address 'lyris.ss@tapr.org' has been submitted to be
unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be
unsubscribed.

To confirm that you do want to unsubscribe, reply to this message so that
the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to
unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the
mailing list.

---

Return-Path: <wses@groupmail.com>
Received: from isis.hol.gr ([194.30.192.21]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Mon, 02 Jul 2001 17:03:56 -0500
Received: (qmail 9602 invoked from network); 2 Jul 2001 21:42:15 -0000
Received: from vdp133.ath04.cas.hol.gr (HELO groupmail.com) (195.97.119.134)
  by isis.hol.gr with SMTP; 2 Jul 2001 21:42:15 -0000
From: "WSES MIV NEWSLETTER (Multimedia, Internet, Video, Signal and Image Processing, Robotics, Distance
 Learning, Communications)" <wses@groupmail.com>
To: ss-request
Subject:
Sender: "WSES MIV NEWSLETTER (Multimedia, Internet, Video, Signal and Image Processing, Robotics,
Distance Learning, Communications)" <wses@groupmail.com>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"
Date: Mon, 2 Jul 2001 23:17:22 +0300
X-Priority: 1 (Highest)
Content-Transfer-Encoding: 8bit

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <wses@groupmail.com>
Received: from isis.hol.gr ([194.30.192.21]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Mon, 02 Jul 2001 17:03:56 -0500
Received: (qmail 9602 invoked from network); 2 Jul 2001 21:42:15 -0000
Received: from vdp133.ath04.cas.hol.gr (HELO groupmail.com) (195.97.119.134)
  by isis.hol.gr with SMTP; 2 Jul 2001 21:42:15 -0000
From: "WSES MIV NEWSLETTER (Multimedia, Internet, Video, Signal and Image Processing, Robotics, Distance
 Learning, Communications)" <wses@groupmail.com>
To: <leave-ss-6751t@lists.tapr.org>
Subject: Please, do not reply to: wses@groupmail.com ,  but see instructions at the end of this message.
Sender: "WSES MIV NEWSLETTER (Multimedia, Internet, Video, Signal and Image Processing, Robotics,
Distance Learning, Communications)" <wses@groupmail.com>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"
Date: Mon, 2 Jul 2001 23:17:22 +0300
X-Priority: 1 (Highest)
Content-Transfer-Encoding: 8bit

Please, do not reply to: wses@groupmail.com
but see instructions at the end of this message.
(The address wses@groupmail.com will never reply to you.
If you want to contact us, see the email address at the end of this message)
---

7 DAYS PROLONGATION FOR PAPER SUBMISSION FOR THE WSES CONFERENCES IN MALTA, Sept.1-6, 2001
t.cs by IEEE RAS (=Technical Co-Sponsored by IEEE RA Society)
http://www.worldses.org/wses/conferences/malta

Only for the members of our lists, we can accept papers until: JULY 7

WSES Intern.Conf. on: MULTIMEDIA, INTERNET, VIDEO TECHNOLOGIES 2001
t.cs by IEEE RAS

WSES Intern.Conf. on: SPEECH, SIGNAL AND IMAGE PROCESSING 2001
t.cs by IEEE RAS

WSES Intern.Conf. on: SIMULATION 2001 (SIM 2001)
t.cs by IEEE RAS

WSES Intern.Conf. on: ROBOTICS, DISTANCE LEARNING AND INTELLIGENT COMMUNICATION SYSTEMS 2001 (RODLICS 2001),
t.cs by IEEE RAS

All the accepted papers will be published in
1) the Proceedings and
2) WSES-Press International Post-Conference Luxurious Editions
3) In some of collaborating journals after further review

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send an email (having as Subject: CONFERENCE333) to: contact_us_conference@yahoo.com
ATTENTION: the SUBJECT of your message must be exactly: CONFERENCE333
The address wses@groupmail.com is a "black hole"
and you must not wait any a reply from it.

## 9. [ss] automatic pwr control

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Mon, 02 Jul 2001 17:58:46 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-21841-2001.07.02-18.24.04--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Just thought I'd pass this find along:

>The in-built dynamic power sensor in SmartAmps adjusts the Radio
>Frequency  (RF) power output level by reading the input signal power.
>This auto gain adjustment deliver the maximum output poer at various
>input levels while keeping the distortion at a minimum.
>
>http://www.teletronics.com/Products/Amplifiers/900MHz/index.htm
>
Available in a 4 watt version.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 10. [ss] TAPR Offices Moving; Short Closure and New Phone Numbers

From: "John R. Ackermann" <jra@febo.com>
Date: Wed, 04 Jul 2001 18:51:58 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-22243-2001.07.04-18.12.52--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The TAPR offices will be moving a few miles from Denton to Richardson, Texas.  We'll be closing on July 26 for the move and re-opening on August 6.  The Tucson mailing address will remain the same (it is a maildrop that forwards to the real office address) but the phone numbers will change. Effective August 6, they will be:

Voice: 972-671-TAPR (8277)

FAX:   972-671-8716

The office email address -- tapr@tapr.org -- will not change.

The move is occurring because Dorothy Jones, KA5DWR, our longtime Office Manager, has decided to take a well-earned retirement.  It would take a lot of words to fully describe how much Dorothy has done for TAPR, and how much we've all relied on her over the years, so I'll just say "Thanks!"

Our new office manager is Laura Koster (XYL of Board member John Koster, W9DDD).  Laura had a baptism of fire by handling the TAPR booth at the Dayton Hamvention this year, and she did a great job.  We're very happy to have her on board, and we're sure that she will carry on Dorothy's goal of providing great service to our members.

73,
John Ackermann   N8UR
President, TAPR
jra@febo.com -- n8ur@tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 11. [ss] Distance Measurement

From: "Vermeersch Bruno" <einstein@gotomy.com>
Date: Sat, 7 Jul 2001 16:51:43
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-22789-2001.07.07-17.12.35--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I wonder if anybody could help me on this subject. I'm a 20 year old student and just learning the beginings of SS. I've read that it is possible to measure the distance between two antennas very accurate with DSSS, and there is also a description of this method in Dixon's book about SS.  The only problem is: it is impossible to buy this book in Belgium (where I live), is the anyone who can get me started on this subject.

Thx in advance

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 12. [ss] IEEE 802.x specs available for free download

From: Ryan Wilkins <ryan@cajun.deadfrog.net>
Date: Sun, 8 Jul 2001 12:37:09 -0400 (EDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-22932-2001.07.08-11.57.59--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I just found that the IEEE has recently released all the 802.x standards that are older than 6 months.  You can find the spec's in PDF format at http://standards.ieee.org/getieee802/

Beware that these files are rather large for those downloading over a 56k modem.  The 802.11-1999 standard is just over 6 megs in size and 500+ pages. The supplements are smaller.

I dont remember seeing anyone else announcing these were available but if they've been announced on this list already please forgive my posting.

Thanks,
Ryan Wilkins
N8YHV

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 13. [ss] Re: ss digest: July 07, 2001

From: Jim Ussailis <ussailis@equinox.shaysnet.com>
Date: Sun, 8 Jul 2001 22:00:18 -0400 (EDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: ss digest recipients <ss@lists.tapr.org>
Message-ID: <LYR6751-22990-2001.07.08-21.19.24--lyris.ss#tapr.org@lists.tapr.org>

Rendered body type: text/plain

Amazon.com sells Dixon's book. Get the 3rd edition.

Take a look at Amazon.de, also

Jim W1EQO

On Sun, 8 Jul 2001, TAPR Spread Spectrum Special Interest Group digest wrote:

> TAPR Spread Spectrum Special Interest Group Digest for Saturday, July 07, 2001.
>
> 1. Distance Measurement
>
> ----------------------------------------------------------------------
>
> Subject: Distance Measurement
> From: "Vermeersch Bruno" <einstein@gotomy.com>
> Date: Sat, 7 Jul 2001 16:51:43
> X-Message-Number: 1
>
> I wonder if anybody could help me on this subject. I'm a 20 year old
> student and just learning the beginings of SS. I've read that it is
> possible to measure the distance between two antennas very accurate with
> DSSS, and there is also a description of this method in Dixon's book about
> SS.  The only problem is: it is impossible to buy this book in Belgium
> (where I live), is the anyone who can get me started on this subject.
>
> Thx in advance
>
>
>
> ---
>
> END OF DIGEST
>
> ---
> You are currently subscribed to ss as: ussailis@shaysnet.com
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 14. [ss] Re: Distance Measurement

From: Francis See <francisc@asia.com>
Date: Mon, 09 Jul 2001 10:32:54 +0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-22995-2001.07.08-23.22.25--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I've an excel file that computes the distance between two
antennas.  This is from Aironet/Telxon (now Cisco Systems).

You will have to enter data like antenna gain, cable lenght,
power output...etc. to get the distance.

Let me know if you're interested, so I'll send the attachment
to you directly.

Francis

At 04:51 PM 7/7/2001 +0000, you wrote:
>I wonder if anybody could help me on this subject. I'm a 20 year old
>student and just learning the beginings of SS. I've read that it is
>possible to measure the distance between two antennas very accurate with
>DSSS, and there is also a description of this method in Dixon's book about
>SS.  The only problem is: it is impossible to buy this book in Belgium
>(where I live), is the anyone who can get me started on this subject.
>
>Thx in advance
>
>---
>You are currently subscribed to ss as: francisc@asia.com
>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 15. [ss] Re: Distance Measurement

From: "Pablo Guillermo LOZANO" <plozano74@hotmail.com>
Date: Tue, 10 Jul 2001 15:48:27
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-23288-2001.07.10-11.09.31--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Dear Francis:

I□m interesting at the measurement distance with SS. Can you send me that
exel file too???.

Very Regards
Pablo Guillermo LOZANO


>From: Francis See <francisc@asia.com>
>Reply-To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
>To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
>Subject: [ss] Re: Distance Measurement
>Date: Mon, 09 Jul 2001 10:32:54 +0800
>
>I've an excel file that computes the distance between two
>antennas.  This is from Aironet/Telxon (now Cisco Systems).
>
>You will have to enter data like antenna gain, cable lenght,
>power output...etc. to get the distance.
>
>Let me know if you're interested, so I'll send the attachment
>to you directly.
>
>
>Francis
>
>
>
>At 04:51 PM 7/7/2001 +0000, you wrote:
>>I wonder if anybody could help me on this subject. I'm a 20 year old
>>student and just learning the beginings of SS. I've read that it is
>>possible to measure the distance between two antennas very accurate with
>>DSSS, and there is also a description of this method in Dixon's book about
>>SS.  The only problem is: it is impossible to buy this book in Belgium
>>(where I live), is the anyone who can get me started on this subject.
>>
>>Thx in advance
>>
>>---
>>You are currently subscribed to ss as: francisc@asia.com
>>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>
>---
>You are currently subscribed to ss as: plozano74@hotmail.com
>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>

_____
Get Your Private, Free E-mail from MSN Hotmail at http://www.hotmail.com.


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 16. [ss] Re: Distance Measurement

From: KRD57@aol.com
Date: Tue, 10 Jul 2001 13:23:51 EDT
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-23309-2001.07.10-12.44.56--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Dear Francis,

I would also appreciate a copy of your excel file.

Thanks,

Keith

## 17. [ss] Re: Distance Measurement

From: Ryan Wilkins <ryan@cajun.deadfrog.net>
Date: Tue, 10 Jul 2001 14:03:58 -0400 (EDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-23326-2001.07.10-13.25.15--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Since many people seem to be interested in this spreadsheet, Myself included,
if you want to send it to me I'll put it online and provide a link for everyone
to download it.  That is, of course, if you dont mind. :)

Ryan Wilkins
N8YHV

On Tue, 10 Jul 2001 KRD57@aol.com wrote:

> Dear Francis,
>
> I would also appreciate a copy of your excel file.
>
> Thanks,
>
> Keith
>
>
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 18. [ss] Re: Distance Measurement

From: "Lucas Beumer" <gitte@singnet.com.sg>
Date: Tue, 10 Jul 2001 19:40:27 +0200
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-23330-2001.07.10-13.44.00--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Me too Please..


Lucas Beumer
PA0NFN

73

Lucas



----- Original Message -----
From: "Pablo Guillermo LOZANO" <plozano74@hotmail.com>
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Sent: Tuesday, July 10, 2001 3:48 PM
Subject: [ss] Re: Distance Measurement


> Dear Francis:
>
> I´m interesting at the measurement distance with SS. Can you send me that
> exel file too???.
>
> Very Regards
> Pablo Guillermo LOZANO
>
>
> >From: Francis See <francisc@asia.com>
> >Reply-To: "TAPR Spread Spectrum Special Interest Group"
<ss@lists.tapr.org>
> >To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
> >Subject: [ss] Re: Distance Measurement
> >Date: Mon, 09 Jul 2001 10:32:54 +0800

> >
> >I've an excel file that computes the distance between two
> >antennas.  This is from Aironet/Telxon (now Cisco Systems).
> >
> >You will have to enter data like antenna gain, cable lenght,
> >power output...etc. to get the distance.
> >
> >Let me know if you're interested, so I'll send the attachment
> >to you directly.
> >
> >
> >Francis
> >
> >
> >
> >At 04:51 PM 7/7/2001 +0000, you wrote:
> >>I wonder if anybody could help me on this subject. I'm a 20 year old
> >>student and just learning the beginings of SS. I've read that it is
> >>possible to measure the distance between two antennas very accurate
with
> >>DSSS, and there is also a description of this method in Dixon's book
about
> >>SS.  The only problem is: it is impossible to buy this book in Belgium
> >>(where I live), is the anyone who can get me started on this subject.
> >>
> >>Thx in advance
> >>
> >>---
> >>You are currently subscribed to ss as: francisc@asia.com
> >>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
> >
> >
> >---
> >You are currently subscribed to ss as: plozano74@hotmail.com
> >To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
> >
>
> _________________________________________________________________

> Get Your Private, Free E-mail from MSN Hotmail at http://www.hotmail.com.
>
>
> ---
> You are currently subscribed to ss as: gitte@singnet.com.sg
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 19. [ss] [ss]Distance Measurement

From: "Pablo Guillermo LOZANO" <plozano74@hotmail.com>
Date: Tue, 10 Jul 2001 22:49:18
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-23409-2001.07.10-18.10.16--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Dear Francis,

I would also appreciate a copy of your excel file, too.

Thanks,

Pablo Guillermo LOZANO

_____
Get Your Private, Free E-mail from MSN Hotmail at http://www.hotmail.com.


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 20. [ss] Re: Distance Measurement

From: Francis See <francisc@pworld.net.ph>
Date: Wed, 11 Jul 2001 07:19:14 +0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>

Message-ID: <LYR6751-23415-2001.07.10-18.47.32--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thanks for the offer Ryan.  I'll send a copy directly to your box.

I did received quite a number of request on this and was
trying to send it directly since I don't want to distribute
unwanted attachments over the SS forum.

Francis / DU3HF

At 02:03 PM 7/10/2001 -0400, Ryan Wilkins wrote:
>Since many people seem to be interested in this spreadsheet, Myself included,
>if you want to send it to me I'll put it online and provide a link for
>everyone
>to download it.  That is, of course, if you dont mind. :)
>
>Ryan Wilkins
>N8YHV
>
>On Tue, 10 Jul 2001 KRD57@aol.com wrote:
>
> > Dear Francis,
> >
> > I would also appreciate a copy of your excel file.
> >
> > Thanks,
> >
> > Keith
> >
> >
> >
>
>
>---
>You are currently subscribed to ss as: francisc@asia.com
>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 21. [ss] Re: [ss]Distance Measurement

From: Arindam Roy <arindam@cmcltd.com>
Date: Wed, 11 Jul 2001 09:13:43 +0530
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-23448-2001.07.10-23.01.58--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

If I can have a copy too

Pablo Guillermo LOZANO wrote:

> Dear Francis,
>
> I would also appreciate a copy of your excel file, too.
>
> Thanks,
>
> Pablo Guillermo LOZANO
> _____
> Get Your Private, Free E-mail from MSN Hotmail at http://www.hotmail.com.
>
> ---
> You are currently subscribed to ss as: arindam@cmcltd.com
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 22. [ss] Re: [ss]Distance Measurement

From: Ryan Wilkins <ryan@cajun.deadfrog.net>
Date: Tue, 10 Jul 2001 23:52:39 -0400 (EDT)

To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-23451-2001.07.10-23.14.31--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

For all that are interested, I have placed this spreadsheet online.
it is available at http://www.deadfrog.net/~ryan/antcalc6.xls

Ryan Wilkins
N8YHV

On Wed, 11 Jul 2001, Arindam Roy wrote:

> If I can have a copy too
>
> Pablo Guillermo LOZANO wrote:
>
> > Dear Francis,
> >
> > I would also appreciate a copy of your excel file, too.
> >
> > Thanks,
> >
> > Pablo Guillermo LOZANO
> > _____
> > Get Your Private, Free E-mail from MSN Hotmail at http://www.hotmail.com.
> >
> > ---
> > You are currently subscribed to ss as: arindam@cmcltd.com
> > To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>
> ---
> You are currently subscribed to ss as: RYAN@DEADFROG.NET
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 23. [ss] Re: The Utility Tool [ss]Distance Measurement

From: s.monsey@att.net
Date: Wed, 11 Jul 2001 04:14:40 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-23452-2001.07.10-23.35.39--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The spread sheet program can be found at the Cisco site
at:

http://www.cisco.com/warp/public/cc/pd/witc/ao350ap/prodl
it/index.shtml

Look under Addition Information, Outdoor Bridge Range
Calculation Utility

Pretty nice little tool!

Steve N0FPF - Seattle

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 24. [ss] Another Neat Tool

From: s.monsey@att.net
Date: Wed, 11 Jul 2001 04:38:35 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-23454-2001.07.10-23.59.33--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Another tool can be found at:

http://www.ydi.com/calc.asp

Steve N0FPF - Seattle
> The spread sheet program can be found at the Cisco site

> at:
>
> http://www.cisco.com/warp/public/cc/pd/witc/ao350ap/prodlit/index.shtml
>
>
> Look under Addition Information, Outdoor Bridge Range
> Calculation Utility
>
> Pretty nice little tool!
>
> Steve N0FPF - Seattle
>
> ---
> You are currently subscribed to ss as: s.monsey@att.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 25. [ss] Re: Distance Measurement

From: Bato@tapr.org, Andras <bato44@matavnet.hu>
Date: Wed, 11 Jul 2001 07:24:48 +0200
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-23506-2001.07.11-02.00.53--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Tue, 10 Jul 2001, you wrote:

Send it to me that Excel sheet please -or name an FTP-site from where everyone
can download it. Tnx.
Andy
HA6NN
--
Dixi et salvavi animam meam.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 26. [ss] Re: Distance Measurement

From: "Lyle Johnson" <wa7gxd@fidalgo.net>
Date: Wed, 11 Jul 2001 07:49:20 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-23559-2001.07.11-10.12.01--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Just FYI - the excel spreadsheet does NOT have anything to do with the
original question of distance measurement using Spread Spectrum.  It is
simply a calculator for path loss to estimate the distance you might achieve
using Aironet radios (based on their nominal receive senstivity for a given
BER, etc).

73,

Lyle

> -----Original Message-----
> From: bounce-ss-14410@lists.tapr.org
> [mailto:bounce-ss-14410@lists.tapr.org]On Behalf Of Bato
> Sent: Tuesday, July 10, 2001 10:25 PM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: Distance Measurement
>
>
> On Tue, 10 Jul 2001, you wrote:
>
> Send it to me that Excel sheet please -or name an FTP-site from
> where everyone
> can download it. Tnx.
> Andy
> HA6NN
> --
> Dixi et salvavi animam meam.
>
> ---
> You are currently subscribed to ss as: wa7gxd@email.msn.com
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

>
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 27. [ss] Re: Distance Measurement

From: Francis See <francisc@asia.com>
Date: Wed, 11 Jul 2001 23:53:45 +0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-23571-2001.07.11-11.16.15--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi SS Group,

I've not validated the formula used on the Excel file,
but for those who have and are familiar with different
802.11b vendors, a question for you:

Should the "estimated" distance path loss be
affected if this is 802.11b from other brands like
Symbol or Lucent?

How about non-802.11 DSSS systems?


BTW, Lyle appreciate for your input.



73, Francis DU3HF


At 07:49 AM 7/11/2001 -0700, you wrote:
>Just FYI - the excel spreadsheet does NOT have anything to do with the
>original question of distance measurement using Spread Spectrum.  It is
>simply a calculator for path loss to estimate the distance you might achieve
>using Aironet radios (based on their nominal receive senstivity for a given
>BER, etc).
>
>73,
>
>Lyle
>
> > -----Original Message-----
> > From: bounce-ss-14410@lists.tapr.org
> > [mailto:bounce-ss-14410@lists.tapr.org]On Behalf Of Bato
> > Sent: Tuesday, July 10, 2001 10:25 PM
> > To: TAPR Spread Spectrum Special Interest Group
> > Subject: [ss] Re: Distance Measurement
> >
> >
> > On Tue, 10 Jul 2001, you wrote:
> >
> > Send it to me that Excel sheet please -or name an FTP-site from
> > where everyone
> > can download it. Tnx.
> > Andy
> > HA6NN
> > --
> > Dixi et salvavi animam meam.
> >
> > ---
> > You are currently subscribed to ss as: wa7gxd@email.msn.com
> > To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
> >
> >
>
>
>---
>You are currently subscribed to ss as: francisc@asia.com
>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 28. [ss] Re: Distance Measurement

From: "chenyao" <chenyaocy@netease.com>
Date: Thu, 12 Jul 2001 21:41:31 +0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-23743-2001.07.12-09.01.11--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

i agree with you ...
i do the distance measurement using Spread Spectrum a few year ago, it depend on the code delay.....it can also be used for velocity measurement.
i'd like to discuss the item with somebody who interested in it.

chen

----- Original Message -----
From: "Lyle Johnson" <wa7gxd@fidalgo.net>
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Sent: Wednesday, July 11, 2001 10:49 PM
Subject: [ss] Re: Distance Measurement

> Just FYI - the excel spreadsheet does NOT have anything to do with the
> original question of distance measurement using Spread Spectrum. It is
> simply a calculator for path loss to estimate the distance you might achieve
> using Aironet radios (based on their nominal receive senstivity for a given
> BER, etc).
>
> 73,
>
> Lyle
>

ÿÿØ¢æ«yË«-éí□+.nÇ+□·□¶□,jÏåÊ¸¬þËÿµªkþ□àN□§²æìr¸□zÇ§u¦åjy□¨¥¶□^j÷ÿ²Ïúï□SþX¬¶Ïíj□ÿ

## 29. [ss] Re: ss digest: July 11, 2001

From: Jim Ussailis <ussailis@equinox.shaysnet.com>
Date: Thu, 12 Jul 2001 11:46:46 -0400 (EDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: ss digest recipients <ss@lists.tapr.org>
Message-ID: <LYR6751-23768-2001.07.12-11.06.35--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

A comment on path loss.

Path loss is simple to calculate, that is, for free space. Unfortunately, "There ain't no such thing as free space..."

Path loss = loss of two isotropic radiators + 1/R^2 loss referenced to wavelength - gain of antennas over isotropic radiators.

Or, path loss = (4Pi)^2 + (R/lambda)^2 - gain of antennas

In dB space,

PATH LOSS = 22dB + 20log (R/Lambda) - Gain xmt ant in dBi - Gain rec ant in dBi

To find if there is enough signal at a detector, algebraically add

- Noise of free space = -174 dBm/Hz
- Path loss from above
- Transmitter power in dBm (NOT dBW !!)
- Receiver noise figure (always use 3 dB minimum for earth bound applications)
- Receiver bandwidth loss = 10 Log (receiver bandwidth in Hz/ 1 Hz)
- Excess level required to process signal (typ 8 to 13 dB)
- Something for antenna cable loss at both ends (usually 2 or 3 dB)
- Path fading margin due to multipath and other attenuation loss

The last item is much greater than you might believe. 20 dB is not unrealistic. For example, I have seen 20 dB fades at 2.7 GHz when tree leaves sway in the wind. This loss is due both to attenuation thru leaves, and multipath reflections from the leaves.

There are several articles on building attenaution in the 800 MHz cell phone band. Here about 4 dB with a 5 dB standard deviation for each block / brick / concrete wall is reasonable. Look in work done at Bell Lab.

I have seen a complete fade for a 100 ft range in 900 MHz DS-SS system
running about 80 mW due to an
elevator shaft. The shaft was in the middle of typical office building
giant room filled with cubicals. On one side of the shaft, everything
worked, on the other side, zippo.

Jim, W1EQO

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 30. [ss] Re: SS,Amature Radio

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Fri, 13 Jul 2001 19:18:17 +0100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-23939-2001.07.13-13.55.30--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I'm working on (have recently worked on) a DSSS 2.4GHz
implementation. Not 802.11 I might add, for similar reasons
to McInnish. To trade off data rate, power & range differently,
and to match co-location performance to the application.

> 1st.... our 'code' is very complex and with the demands of normal day to day
> activities and the level of business activity we have and priorities what
> they are... internal development and customer needs are addressed first.
> Thus, this code mod would be forever being changed.  We are busier than one
> armed paper hangers in a paper hanging contest.

I disagree.

For test purposes it's necessary to force the frequency of operation,
in some cases beyond the intended range. eg. to verify PLLs have
sufficient margin at ambient to cover the desired temp. range. We
don't want to maintain parallel firmware versons or to waste time
reprogramming units after test so products ship with test features in.

To meet customer needs it may be desirable to operate in the military
part of the band which we tested.

> 2nd.... Our chief engineer tells me that would potentially put us into
> violation of the ETSI & CE requirements and that will never happen as that
> is our bread & butter!  As our firmware now exists... any parameter that
> needs changing can be done with a configuration program we provide to the
> customer (our radio's have hundreds of 'changeable' parameters) and if a
> parameter exists that can be changed to cause the radio to operate beyond
> the ETSI & CE requirements, then the certifications are null and void.
> So........

I disagree.

All PC modem cards come with software which enables you to change
the country settings. Setting the wrong one will take modem parameters
outside national or regional (EU, ETSI) standards. Nothing more than
a warning against modifying your modem in this way is required in the
handbook.

For many years I've been involved in designing type-approved radio
products, and to meet varying national requirements settable configuration
state or "customer numbers" have been variously used. Sometimes
well-documented and front-panel accessible,  and sometimes requiring
use of a service link or software key. It has not proved a barrier to
type-approval.

There are many ways a compliant product can be made non-compliant
with CE including fitting non-earthed mains plugs, the wrong fuses, or
a reflector near the antenna so it's EIRP is increased. Why should
modification of firmware settings be different - unless there is some
risk they could be corrupted in a way that still left the unit operational so
its malfunction was non-obvious to the user.

> 4th.... Our fastest growing segment of our business is the WISP business!
> We only sell to (financially sound) ISP's & Telco's.  But our OEM,
> Commercial & Industrial segment of our business is still 65% of our total
> business and growing like a house fire (admittedly, the WISP side of our
> business also growing like gang busters... maybe a little faster than the
> OEM side!).

The band below 2.400GHz is shared between amateurs and the military.
Are you unaware of the potential for military applications of your product?

The contract between Marconi & the UK MoD for circa 50,000 radios has
not been mentioned here but it's public record FYI:
http://www.mod.uk/index.php3?page=2&nid=1059&view=832&cat=0

If Mr. McInnish has not unsubscribed, perhaps he can still be persuaded
to permit wider limits to be set in his firmware.

My experience on HFsig indicates that members from commercial
companies are welcome, and that experience with commercial systems is
relevant. I don't think McInnish has posted any spam, he is enthusiastic
about his product which is great, but perhaps he did get a little irate when
prodded wich could happen to anyone. SSsig is just a little too toucy.

I'll be working on algorithms for modems for FHSS on HF for 2 weeks.

Ant

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 31. [ss] Re: SS,Amature Radio

From: Gerry Creager <gerry@cs.tamu.edu>
Date: Fri, 13 Jul 2001 14:48:11 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-23957-2001.07.13-14.46.54--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Anthony N Martin wrote:
>
> I'm working on (have recently worked on) a DSSS 2.4GHz
> implementation. Not 802.11 I might add, for similar reasons
> to McInnish. To trade off data rate, power & range differently,
> and to match co-location performance to the application.

Ant,

Might I trouble you for some more details on the system you've been
working on... and possibly details on the Marconi wireless products
they're selling over on this side of the pond?  We're covered by the
standard non-disclosures; we work pretty well with Marconi on ATM
hardware and the Company just donated $1M to my lab being developed as a
virtual presence teaching lab for network engineering.

Marconi have just slashed (as I'm sure you know) a large number of the
sales force, and the guy who sells here is less than desirable.  Our
previous sales rep is now the sole Systems Engineer for the Houston
Texas area, so I hate to trouble him since he's so busy.  And, you seem
well placed to answer these sorts of questions!

Thanks,
Gerry
Texas A&M University
Academy for Advanced Telecommunications and Learning Technologies
Network Engineering
VNE Lab                 979.458.4020 (office)   979.847.8608 (Lab       979.8478578 (fax)

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 32. Your confirmation is needed (ok 6751)

From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Mon, 23 Jul 2001 08:48:04 -0500
To: lyris.ss@tapr.org
Message-ID: <LYR6751-25758-2001.07.23-08.48.04--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Your email address 'lyris.ss@tapr.org' has been submitted to be
unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be
unsubscribed.

```
To confirm that you do want to unsubscribe, reply to this message so that
the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to
unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the
mailing list.

---

Return-Path: <none_reply@worldses.org>
Received: from thor.hol.gr ([194.30.192.25]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Mon, 23 Jul 2001 08:48:01 -0500
Received: (qmail 2691 invoked from network); 23 Jul 2001 13:18:50 -0000
Received: from isis.hol.gr (194.30.192.21)
  by thor.hol.gr with SMTP; 23 Jul 2001 13:18:50 -0000
Received: (qmail 11406 invoked from network); 23 Jul 2001 13:19:36 -0000
Received: from vdp222.ath04.cas.hol.gr (HELO worldses.org) (195.97.119.223)
  by isis.hol.gr with SMTP; 23 Jul 2001 13:19:36 -0000
From: "WSES MIV NEWSLETTER (Multimedia, Internet, Video, Signal and Image Processing, Robotics, Distance
 Learning, Communications)" <none_reply@worldses.org>
To: ss-request
Subject:
Sender: "WSES MIV NEWSLETTER (Multimedia, Internet, Video, Signal and Image Processing, Robotics,
Distance Learning, Communications)" <none_reply@worldses.org>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"
Date: Tue, 24 Jul 2001 00:42:27 +0300
X-Priority: 1 (Highest)
Content-Transfer-Encoding: 8bit

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <none_reply@worldses.org>
Received: from thor.hol.gr ([194.30.192.25]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Mon, 23 Jul 2001 08:48:01 -0500
Received: (qmail 2691 invoked from network); 23 Jul 2001 13:18:50 -0000
Received: from isis.hol.gr (194.30.192.21)
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Received: (qmail 11406 invoked from network); 23 Jul 2001 13:19:36 -0000
Received: from vdp222.ath04.cas.hol.gr (HELO worldses.org) (195.97.119.223)
  by isis.hol.gr with SMTP; 23 Jul 2001 13:19:36 -0000
From: "WSES MIV NEWSLETTER (Multimedia, Internet, Video, Signal and Image Processing, Robotics, Distance
 Learning, Communications)" <none_reply@worldses.org>
To: <leave-ss-6751t@lists.tapr.org>
Subject: WSES CONFERENCES related to Computational Intelligence. NEW! ACEDEMIC POSITIONS
Sender: "WSES MIV NEWSLETTER (Multimedia, Internet, Video, Signal and Image Processing, Robotics,
Distance Learning, Communications)" <none_reply@worldses.org>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"
Date: Tue, 24 Jul 2001 00:42:27 +0300
X-Priority: 1 (Highest)
Content-Transfer-Encoding: 8bit

Please, do not reply to: none_reply@worldses.org,
but see instructions at the end of this message.
(The address none_reply@worldses.org will never reply to you.
If you want to contact us, see at the end of this message)
************************************************************

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CONTENTS: IN THIS ISSUE, READ
      1) WSES CONFERENCES related to Computational Intelligence
      2) NEW! POSITIONS related to Neural Nets, Fuzzy Systems, EC (See below)

                            ******

After the general success of the previous WSES conferences in Computational
Intelligence (or if you prefer Soft Computing), we would like to invite each of you to
```

contribute or simply to attend the 2002 WSES triplet of conferences NNA, FSFS, EC. Of course, all the accepted papers will be published not only in the usual conference proceedings, but also in the luxurious WSES Press International Books. Some special issues have been already scheduled in collaborating journals! Also, you will attend plenary lectures from the leaders of our area as well as social and cultural activities of high academical standards!

3rd WSES NNA (NEURAL NETWORKS AND APPLICATIONS)
3rd WSES FSFS (FUZZY SETS AND FUZZY SYSTEMS and
3rd WSES EC (EVOLUTIONARY COMPUTATION)

A unique triplet of soft computing conferences!!!
Interlaken, Switzerland, February 11-15, 2002
DEADLINE FOR PAPER SUBMISSION: SEPTEMBER 30, 2001
NOTIFICATION OF ACCEPTANCE/REJECTION: One month after the submission of your paper (maximum)

Honorary Chair:
Prof. Lotfi Zadeh, University of Berkeley, USA
Prof. Teuvo Kohonen, Helsinki Univ. of Techn., Academy Prof. of Academy of Finland.

Chair:
Prof. David Fogel, Natural Selection Company, IEEE Editor Trans.EC., USA.
Prof. Ales Grmela, AGCES, Praha, Czech Republic
Prof. Janusz Kacprzyk, Polish Academy of Sciences, Poland.
Prof. Nikos Mastorakis, Hellenic Naval Academy, Greece.
Prof. Erkki Oja, Helsinki University of Technology (HTU), Finland.
Prof. Francisco Torrens, Universitat de Valencia, Spain.
Prof. Michio Sugeno, Brain Science Institute, Japan.

Members of the Scientific Committee: see at:
http://www.worldses.org/wses/conferences/2002/interlaken/nna
http://www.worldses.org/wses/conferences/2002/interlaken/fsfs
http://www.worldses.org/wses/conferences/2002/interlaken/ec

ALL THE ACCEPTED PAPERS will be published:
1)in the CD-ROM Proceedings (with Search Facilities and Page Numbering)
as well as
2)in the Artificial Intelligence International Reference
Book Series of WSES PRESS as Post-Conference Books (Hard cover, velvet paper, international circulation).
These will be different International Editions (with different ISBN).
This material will be distributed to the participants.

Also SPECIAL ISSUES have been scheduled for:
a)NEURAL NETWORKS WORLD
b)IJCR (INTERNATIONAL JOURNAL FOR COMPUTER RESEARCH)

In the conference, we have also the participation of
WSES Sectors of Electrical Engineering, Mechanical Engineering,
Chemical Engineering, Oceanic Engineering, Aerospace Engineering,
and the active participation of
WSES Soft Computing Technical Committee, WSES Automatic Control Technical Committee
and WSES Computer Science Technical Committee!

TOPICS FOR EACH CONFERENCE: See the web

INTERLAKEN (Switzerland):
Lord Byron, famously remarked "it's a dream" on first seeing the place. Boat cruises on famous lakes, spectacular skiing in the Alps, attractive winter sports, water-based activities, excellent hotels, cosmopolitan life. The name 'Interlaken' actually means "between the lakes" - Lake Thun and Lake Brienz to be precise and water is omnipresent throughout the area with idyllic clear mountain streams and waterfalls running off the hills and into the lakes. This unique place in amazing Switzerland, will host the successfull WSES Conferences on Soft Computing and Artificial Intelligence in 2002!

MORE DETAILS VISIT THE WEB
OR SEND AN EMAIL (having as Subject: CONFERENCE333) to: contact_us_conference@yahoo.com
ATTENTION: the SUBJECT of your message must be exactly: CONFERENCE333

******

The Department of Aerospace, Power and Sensors at Cranfield University, The Royal Military College of Science (RMCS) Shrivenham, England invites applications for PhD research studentships into multiple intelligent software agents (MISA).
The first studentship will focus on using soft computing techniques such as fuzzy logic, artificial neural networks, evolutionary

algorithms etc as a basis for the MISA.
The second studentship is focused on designing MISA via temporal
logic combined with discrete event systems.
Contact: B.A.White@rmcs.cranfield.ac.uk
        www.rmcs.cranfield.ac.uk/departments/daps

                            ******

          Position in Process Control & Optimization
          Buhler Corporate Technology in Uzwil, Switzerland

The research unit Process Optimization is concerned, in a broad sense, with
the improvement of numerous physical and planning processes through well-
founded modeling, control, fault diagnosis, production optimization and the
like. This is achieved by using classical methods of control engineering as
well as the so-called intelligent methods (neural networks, fuzzy logic,
expert systems, genetic methods, etc.) that are specially suited for the
complex conditions governing our processes.
For application and information - Ms. M. Herzog,  Human Resources, Buhler Ltd.,
CH-9240 Uzwil, Switzerland, mary.herzog@buhlergroup.com

                            ******

POSTDOCTORAL POSITION IN THE AREA OF OPTIMAL CONTROL
at IMPERIAL COLLEGE, for a period up to 3 years. The salary, which conforms to
EPSRC pay scales, will depend on the age and experience of the successful
candidate, but will be, in most cases, in excess of BP 20,000 per year
Contact: r.vinter@ic.ac.uk

                            ******

Research Associate Non-Linear Dynamics & Statistics, UK
Postgrad/Postdoc Vacancy
There is currently a vacancy for postgraduate or postdoctoral researcher at
the University of Strathclyde in Glasgow/NUI Maynooth (UK salary scale RA1B,
currently approx. Euro 31218 - Euro 43693 per year).
Candidates should ideally have a strong statistics/dynamics background.
Contact: doug@eee.strath.ac.uk

                            ******

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completing an appropriate web form.
The address none_reply@worldses.org is a "black hole"
and you must not wait any a reply from it.

-----------------------------------------------------
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    select WSES MIV NEWSLETTER (Multimedia, Internet, Video, Signal and Image
Processing, Robotics, Distance Learning, Communications)
    Please, do not unsubscribe from lists that you do not belong.
    It will cause problems and it may cancel your un-subscription!

## 33. EMI dBm

From: "Dan Neu"<emerald@nauticom.net>
Date: Wed, 25 Jul 2001 12:45:37 -0400
To: lyris.ss@tapr.org
Message-ID: <200107251647.f6PGlkx12760@gonzo.nauticom.net>
Rendered body type: text/plain

Hi! How are you?

I send you this file in order to have your advice

See you later. Thanks

# August 2001

Original source file: ss.0108
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/ss.0108

## 1. [ss] Re: SS,Amature Radio

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Wed, 1 Aug 2001 16:49:09 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-27361-2001.08.01-17.11.18--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On the subject of modifying / buying off the shelf FHSS gear with a
modified band plan for amateur use:

>All PC modem cards come with software which enables you to change
>the country settings. Setting the wrong one will take modem parameters
>outside national or regional (EU, ETSI) standards. Nothing more than
>a warning against modifying your modem in this way is required in the
>handbook.

A simple warning makes since to me.  No company can really prevent an
anyone from modifying something, I doubt they could be held responsible
for something wrong the consumer does with their product.  But I'm not
sure what kind of restrictions manufactures have to abide by.

Just for everyone's info most of wireless cards out there are obviously
mass produced and have undocumented (pre set) settings for US, France,
Spain and Japan band plans. (And some manufactures have settings for
other countries) The manufacture sets this county code using special
software) to the county where the product will be sold.  And setting
or changing the county code adjusts the frequency operating range, and
power output slightly to comply with that particular countries
standards.

However the only two counties that I know of that have ISM band plans
that end before 2450 MHz (end of the US amateur overlap) are Australia
and Saudi Arabia.

So if you can sweet talk a manufacture to sell you a FHSS card
programmed with either of those countries codes your in business.
It would be even better if we (hams) could easily change these
parameters ourselves somehow.  This is why I think it would be well
worth the time to reverse compile some of the drivers out there, you
might just figure out how to change these parameters yourself.

Using Part 15 Wireless Ethernet Cards For Amateur Radio:
http://www.qsl.net/kb9mwr/projects/wireless/plan.html

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 2. [ss] Re: SS,Amature Radio

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Thu, 2 Aug 2001 08:35:07 +1000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-27367-2001.08.01-17.57.14--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> However the only two counties that I know of that have ISM band plans
> that end before 2450 MHz (end of the US amateur overlap) are Australia
> and Saudi Arabia.

Hmm, Australia's wireless LAN band ends at 2463 MHz (4W EIRP), though US
spec devices are allowed up to 2483 MHz at 200mW EIRP.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 3. [ss] Re: SS,Amature Radio

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Wed, 1 Aug 2001 18:28:51 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-27373-2001.08.01-18.50.54--lyris.ss#tapr.org@lists.tapr.org>

Rendered body type: text/plain

>Hmm, Australia's wireless LAN band ends at 2463 MHz (4W EIRP), though US
>spec devices are allowed up to 2483 MHz at 200mW EIRP.

Really?  I was told by Proxim that the Australian band plan would assure
propper overlap.  And some info I found said the Australian 1W + Antenna
gain ISM band allocations are 2400-2445, and the 200 mW US Spec
allocations are 2400-2483.5.  And the same piece of info says Saudi
Arabia's ISM allocations are 2413-2439.

Does anyone else know of any other countries who's 2.4 GHz ISM
allocations end at or before 2450 MHz?

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 4. [ss] Re: SS,Amature Radio

From: "erik" <erik@neurosis.org>
Date: Wed, 1 Aug 2001 17:54:14 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-27382-2001.08.01-20.23.59--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Althought not the same, but Canada's current regs allow "outdoor" use
of ISM above 2450MHz until July of 2002.  Usage below 2450MHz must be
indoors only.

> -----Original Message-----
> From: bounce-ss-22085@lists.tapr.org
> [mailto:bounce-ss-22085@lists.tapr.org]On Behalf Of Steve Lampereur
> Sent: Wednesday, August 01, 2001 4:29 PM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: SS,Amature Radio
>
>
> >Hmm, Australia's wireless LAN band ends at 2463 MHz (4W EIRP), though US
> >spec devices are allowed up to 2483 MHz at 200mW EIRP.
>
> Really?  I was told by Proxim that the Australian band plan would assure
> propper overlap.  And some info I found said the Australian 1W + Antenna
> gain ISM band allocations are 2400-2445, and the 200 mW US Spec
> allocations are 2400-2483.5.  And the same piece of info says Saudi
> Arabia's ISM allocations are 2413-2439.
>
> Does anyone else know of any other countries who's 2.4 GHz ISM
> allocations end at or before 2450 MHz?
>
>
> ---
> You are currently subscribed to ss as: erik@neurosis.org
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 5. [ss] Re: SS,Amature Radio

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Wed, 1 Aug 2001 20:27:00 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-27387-2001.08.01-20.49.07--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At least that helps protect the 2.4 GHz amateur band.  In most large
US cites the 2.4 amateur band is trashed by the Part 15/ISM band stuff

>Althought not the same, but Canada's current regs allow "outdoor" use
>of ISM above 2450MHz until July of 2002. Usage below 2450MHz must be
>indoors only.

Here a couple links for info on international ISM allocations (scroll
down a bit for the tables):

http://www.conformity.com/0008emc1.html
http://www.ask-technologies.com/freqaksframe.html
My extracted text version:
http://www.qsl.net/kb9mwr/projects/wireless/int-ism.txt

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 6. [ss] Re: SS,Amature Radio

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Thu, 2 Aug 2001 09:38:50 +1000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-27407-2001.08.02-00.46.55--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> >Hmm, Australia's wireless LAN band ends at 2463 MHz (4W
> EIRP), though US
> >spec devices are allowed up to 2483 MHz at 200mW EIRP.
>
> Really?  I was told by Proxim that the Australian band plan
> would assure
> propper overlap.  And some info I found said the Australian
> 1W + Antenna

Hmm, I'll have to try and drag out the proper document from
www.aca.gov.au...  But 2463 and 2483 come to mind.  A local ham has worked
in the industry and lamented the fact that the ISM band extends outside the
amateur band...

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 7. [ss] Re: SS,Amature Radio

From: "Paul McInnish" <k4bet@cirronet.com>
Date: Thu, 2 Aug 2001 08:48:12 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-27435-2001.08.02-08.07.13--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Does the reflector allow small PDF documents to be attached?  If so, I can
post a PDF file that has some tables with ISM frequency allocations of the
world and some other requirements.

Best regards,

Paul McInnish - K4BET
Manager, Business Development
Cirronet, Inc. (formerly Digital Wireless)
5375 Oakbrook Parkway
Norcross, GA 30093, USA

Direct Phone: 678.684.2011
Fax: 678.684.2001
Cell Phone: 678.429.2124

Web site: http://www.cirronet.com

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 8. [ss] Re: SS,Amature Radio

From: "Jim Pearce" <jwp@pegasustech.com>
Date: Thu, 2 Aug 2001 08:53:31 -0300
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-27436-2001.08.02-08.15.28--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Paul:

Glad to see you still here after all the arrows you have taken!

How about a link to the pdf file instead of an attachment?

73, Jim W4DY

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 9. [ss] Re: Australia ISM Band Plan

From: "Paul McInnish" <k4bet@cirronet.com>
Date: Thu, 2 Aug 2001 09:06:44 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-27437-2001.08.02-08.25.40--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Here is the table as cut from the ACA web site....
(http://www.aca.gov.au/publications/info/spreadsp.htm)

Table 1 - Spread Spectrum Devices Frequency Bands and Power Limits

Frequency Band (MHz) 915 to 928
Maximum Equivalent Isotropically Radiated Power (EIRP)  1 watt

Frequency Band (MHz) 2400 to 2463
Maximum Equivalent Isotropically Radiated Power (EIRP)  4 watts

Frequency Band (MHz) 2463 to 2483.5
Maximum Equivalent Isotropically Radiated Power (EIRP)  200 milliwatts

Frequency Band (MHz) 5725 to 5875
Maximum Equivalent Isotropically Radiated Power (EIRP)  1 watt

Best regards,

Paul McInnish - K4BET
Manager, Business Development
Cirronet, Inc. (formerly Digital Wireless)
5375 Oakbrook Parkway
Norcross, GA 30093, USA

Direct Phone: 678.684.2011
Fax: 678.684.2001
Cell Phone: 678.429.2124

Web site: http://www.cirronet.com

----- Original Message -----
From: "Tony Langdon" <tlangdon@atctraining.com.au>
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Sent: Wednesday, August 01, 2001 7:38 PM
Subject: [ss] Re: SS,Amature Radio

: > >Hmm, Australia's wireless LAN band ends at 2463 MHz (4W
: > EIRP), though US
: > >spec devices are allowed up to 2483 MHz at 200mW EIRP.
: >
: > Really?  I was told by Proxim that the Australian band plan
: > would assure
: > propper overlap.  And some info I found said the Australian
: > 1W + Antenna
:
: Hmm, I'll have to try and drag out the proper document from
: www.aca.gov.au...  But 2463 and 2483 come to mind.  A local ham has worked
: in the industry and lamented the fact that the ISM band extends outside
the
: amateur band...
:
: ---
: You are currently subscribed to ss as: k4bet@digital-wireless.com
: To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
:

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 10. [ss] Ricochet up for auction, going dark?

From: "Robert Jeffrey King" <jeff@aerodata.net>
Date: Thu, 2 Aug 2001 13:23:26
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-27496-2001.08.02-13.45.33--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

See the following:

http://www.ricochet.net/auctioninfo/index.html
http://www.go2mac.com/story.lasso?newsID=8142

Whatever happens, we are going to be seeing alot of their units
on the surplus market soon. Would be a nice unit to convert to
ham use.

-Jeff

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 11. [ss] Re: Australia ISM Band Plan

From: "M.A.Pinfold" <pinfold@xtra.co.nz>
Date: Fri, 3 Aug 2001 07:31:58 +1200
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-27505-2001.08.02-14.41.42--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Just to add to the mayhem in NZ Restricted radiation devices
http://www.med.govt.nz/rsm/publications/equip_specs/rfs29.pdf  (up to
2483MHz)
----- Original Message -----
From: "Paul McInnish" <k4bet@cirronet.com>
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Sent: Friday, August 03, 2001 1:06 AM
Subject: [ss] Re: Australia ISM Band Plan

> Here is the table as cut from the ACA web site....
> (http://www.aca.gov.au/publications/info/spreadsp.htm)
>
> Table 1 - Spread Spectrum Devices Frequency Bands and Power Limits
>
> Frequency Band (MHz) 915 to 928
> Maximum Equivalent Isotropically Radiated Power (EIRP)  1 watt
>
> Frequency Band (MHz) 2400 to 2463
> Maximum Equivalent Isotropically Radiated Power (EIRP)  4 watts
>
> Frequency Band (MHz) 2463 to 2483.5
> Maximum Equivalent Isotropically Radiated Power (EIRP)  200 milliwatts
>
> Frequency Band (MHz) 5725 to 5875
> Maximum Equivalent Isotropically Radiated Power (EIRP)  1 watt
>
>
> Best regards,
>
> Paul McInnish - K4BET
> Manager, Business Development
> Cirronet, Inc. (formerly Digital Wireless)
> 5375 Oakbrook Parkway
> Norcross, GA 30093, USA
>
> Direct Phone: 678.684.2011
> Fax: 678.684.2001
> Cell Phone: 678.429.2124
>
> Web site: http://www.cirronet.com
>
> ----- Original Message -----
> From: "Tony Langdon" <tlangdon@atctraining.com.au>
> To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
> Sent: Wednesday, August 01, 2001 7:38 PM
> Subject: [ss] Re: SS,Amature Radio
>
>

> : > >Hmm, Australia's wireless LAN band ends at 2463 MHz (4W
> : > EIRP), though US
> : > >spec devices are allowed up to 2483 MHz at 200mW EIRP.
> : >
> : > Really?  I was told by Proxim that the Australian band plan
> : > would assure
> : > propper overlap.  And some info I found said the Australian
> : > 1W + Antenna
> :
> : Hmm, I'll have to try and drag out the proper document from
> : www.aca.gov.au...  But 2463 and 2483 come to mind.  A local ham has
worked
> : in the industry and lamented the fact that the ISM band extends outside
> the
> : amateur band...
> :
> : ---
> : You are currently subscribed to ss as: k4bet@digital-wireless.com
> : To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
> :
>
>
> ---
> You are currently subscribed to ss as: PINFOLD@XTRA.CO.NZ
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 12. [ss] Re: SS,Amature Radio

From: "erik" <erik@neurosis.org>
Date: Thu, 2 Aug 2001 14:37:49 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-27531-2001.08.02-17.07.39--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> At least that helps protect the 2.4 GHz amateur band.  In most large
> US cites the 2.4 amateur band is trashed by the Part 15/ISM band stuff

Not for long, the plan was to protect licensed users but it will elapse
next year.

2.4 is going to be trashed horribly in the next few years, especially
with new wireless communities popping up.



> -----Original Message-----
> From: bounce-ss-22085@lists.tapr.org
> [mailto:bounce-ss-22085@lists.tapr.org]On Behalf Of Steve Lampereur
> Sent: Wednesday, August 01, 2001 6:27 PM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: SS,Amature Radio
>
>
> At least that helps protect the 2.4 GHz amateur band.  In most large
> US cites the 2.4 amateur band is trashed by the Part 15/ISM band stuff
>
> >Althought not the same, but Canada's current regs allow "outdoor" use
> >of ISM above 2450MHz until July of 2002. Usage below 2450MHz must be
> >indoors only.
>
> Here a couple links for info on international ISM allocations (scroll
> down a bit for the tables):
>
> http://www.conformity.com/0008emc1.html
> http://www.ask-technologies.com/freqaksframe.html
> My extracted text version:
> http://www.qsl.net/kb9mwr/projects/wireless/int-ism.txt
>
>
> ---
> You are currently subscribed to ss as: erik@neurosis.org
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 13. [ss] Re: Australia ISM Band Plan

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Thu, 2 Aug 2001 17:04:54 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-27532-2001.08.02-17.27.01--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Well I'll be. I don't really know what Proxim did then. I could of sworn they said they would load an Australian band plan. (Maybe it was an old one) or maybe they created one from scratch.

That kinda sucks then if it's to 2463 MHz, all the harder to get something within the ham band with out having to total redo the EEPROM. Unless someone else (maybe who works with the things), has some additional insite. I can think of one other somewhat crude way to ensure off the shelf 2.4 FHSS hops only within the ham overlap. It involves generating a wide band low power (part 15) signal from ~2450 to 2483.5, thus forcing it to hop within the overlap. Pretty lame idea though.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
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## 14. [ss] Re: Ricochet up for auction, going dark?

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Thu, 2 Aug 2001 17:25:01 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-27536-2001.08.02-17.47.15--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Does anyone have any technical info on the units? I've never seen one, and have no idea how they work.. Is there anything proprietary about them? Like Jeff says it would be nice to convert them for ham use.

And while on the subject of 900 MHz, we've recently put up pictures of a homebrew 900 MHz bi-directional amplifier design, it has been tested on the old style NCR 2 Mbit WaveLAN, 915 MHz DSSS cards and work just fine. If your interested see:
http://www.gbonline.com/~multiplx/wireless/appendixE.html

And a few other new things from GBPPR:

The Wireless Network Link Analysis CGI at:
http://www.gbonline.com/~multiplx/wireless/wireless.main.cgi
Now calculates reliability/outage percents, and other climate based factors.

And Radio Path v1.0:
A Perl script to graphically show the radio path profile between two points. It will plot the 0.6 Fresnel zone and the true radio path for a given value of K (the effective Earth radius factor). This is all displayed in reference to the path's elevation data taken at intervals along the link path. This will let you see if you have a clear radio line-of-sight path.
A sample output displaying a 10 mile radio path at 2.4 GHz:
http://www.gbonline.com/~multiplx/wireless/pics/example.output.png

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 15. [ss] Re: Ricochet up for auction, going dark?

From: Brett Glass <brett@lariat.org>
Date: Thu, 02 Aug 2001 17:06:30 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-27544-2001.08.02-18.28.58--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Oooh. The way they're making this offering, they had better
find a buyer who's willing to take the whole company -- lock,
stock, and barrel -- or they're in trouble.

You see, Metricom's 128 Kbps service (the only one that's worth
using, really) runs on 900 MHz from poletop to consumer but
on licensed 2.3 GHz spectrum from hub to poletop. Now, as I
understand it, the FCC doesn't allow sublicensing, so only
the owner of that spectrum license can really make use of
the Ricochet infrastructure. It can license resellers (which
it did!), but it must be the one that operates the network.

The equipment (cost: about $1000 per light pole) is useless
without the license, and the license -- while it is of SOME
use without the equipment -- would require a huge investment
to use for any other purpose. Nothing else is made for that
band.

What's really needed (or what WAS needed; it may now be too
late) is a change of pricing structure, product offerings, and
business model. It'd be neat to get some capital, buy the
company out, and eliminate the dysfunctional aspects that
led the company to this pass. I'm convinced that, with a bit
of "thinking outside the box," it could be done. But I sure
don't have the kind of money necessary to orchestrate the
buyout.

--Brett

At 07:23 AM 8/2/2001, Robert Jeffrey King wrote:

>See the following:
>
>http://www.ricochet.net/auctioninfo/index.html
>http://www.go2mac.com/story.lasso?newsID=8142
>
>Whatever happens, we are going to be seeing alot of their units
>on the surplus market soon. Would be a nice unit to convert to
>ham use.
>
>-Jeff
>
>
>---
>You are currently subscribed to ss as: BRETT@LARIAT.ORG
>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 16. [ss] Re: ss digest: August 01, 2001

From: Jim Ussailis <ussailis@equinox.shaysnet.com>
Date: Thu, 2 Aug 2001 19:21:24 -0400 (EDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: ss digest recipients <ss@lists.tapr.org>
Message-ID: <LYR6751-27545-2001.08.02-18.41.31--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Correct me...

I thought that the FH and DS rules, in the States, allowed 1 Watt power
output with an antenna gain of +6 dBi. I also believe there is a benefit
to running a higher antenna gain, as the hit on power reduction is less
than the allowable antenna gain.

Modifying a commerical unit...

Most of the commerical units use common PLL ICs for frequency. Developer
(or evaluation) boards are available for almost all of these chips. What
would prevent one from disconnecting the PLL circuit in a commerical FH
modem, and replacing it with a PLL/developers board? From the same
manufactor, of course.

Note I didn't say to remove the commerical board PLL circuit, I would
assume it were left there, operating into a resistor.

This way we could be on amateur frequencies, and the commerical board

would remain happy.

Jim, W1EQO

---
You are currently subscribed to ss as: lyris.ss@tapr.org
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## 17. [ss] Re: ss digest: August 01, 2001

From: Brett Glass <brett@lariat.org>
Date: Thu, 02 Aug 2001 17:40:18 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: ss digest recipients <ss@lists.tapr.org>
Message-ID: <LYR6751-27547-2001.08.02-19.02.33--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 05:21 PM 8/2/2001, Jim Ussailis wrote:

>Correct me...
>
>I thought that the FH and DS rules, in the States, allowed 1 Watt power
>output with an antenna gain of +6 dBi.

Almost. It's 1 watt EIRP, which means 1 watt with antenna gain of 0 dBi.

>I also believe there is a benefit
>to running a higher antenna gain, as the hit on power reduction is less
>than the allowable antenna gain.

Only on certain bands and under certain circumstances. On 2.4 GHz, the
rules are structured so as to encourage the use of narrow beam, high
gain antennas... but on point-to-point links ONLY. Point-to-multipoint
Part 15 applications aren't allowed to push EIRP above a watt. IMHO,
the nodes other than the hub should be allowed to.

--Brett

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 18. [ss] Re: ss digest: August 01, 2001

From: Jeff King <jeff@aerodata.net>
Date: Thu, 02 Aug 2001 19:42:19 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-27548-2001.08.02-19.02.51--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Jim Ussailis wrote:

> I thought that the FH and DS rules, in the States, allowed 1 Watt power
> output with an antenna gain of +6 dBi.

Depends what rule set you are talking. Part 97, we can run up to 100 watts
on 440 and above using spread spectrum  HOWEVER, and this is a big however, we
have to use automatic power control if we go above 1 watt. The effectively
rules out using part 15 stuff under part 97 (or should I say, there is no good
reason to do so).

FYI, part 97 are the amateur radio rules, part 15 the unlicensed emitters
(commonly referred to as ISM band even though those are the part 18 rules)

>I also believe there is a benefit
> to running a higher antenna gain, as the hit on power reduction is less
> than the allowable antenna gain.

OK, so you are talking part 15. 36dbm is the maximum ERP on 900mhz and on
2.4ghz in a point to multipoint operation. On 2.4ghz, in a point to point
configuration, what you say is true. In the U.S., for every 1 db our power
is below 30dbm (1 watt) we can add 3db of antenna gain (over 6db). For example,
with a output power of 20dbm (100mw) one could use a (6+(10*3))db gain antenna.
This could give a legal ERP of 56dbm(20+36) (400 watts) on a unlicensed band. Granted,
that would be a big dish, but it is common to run ERP's of ~100 watts on this band
with affordable equipment (250mw out into a 24dbi gain antenna).

-Jeff

---
You are currently subscribed to ss as: lyris.ss@tapr.org
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## 19. [ss] Re: ss digest: August 01, 2001

From: Jeff King <jeff@aerodata.net>
Date: Thu, 02 Aug 2001 20:00:21 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-27550-2001.08.02-19.20.46--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Brett Glass wrote:
>
> At 05:21 PM 8/2/2001, Jim Ussailis wrote:
>
> >Correct me...
> >
> >I thought that the FH and DS rules, in the States, allowed 1 Watt power
> >output with an antenna gain of +6 dBi.
>
> Almost. It's 1 watt EIRP, which means 1 watt with antenna gain of 0 dBi.

Nope, it is 1 watt output with 6dbi gain. See my other message. Here are the
relevent FCC rules:

http://frwebgate.access.gpo.gov/cgi-bin/get-cfr.cgi?TITLE=47&PART=15&SECTION=247&YEAR=2000&TYPE=TEXT

Specifically, Sec. 15.247 (b)(2)  and Sec. 15.247 (b)(3)

-Jeff

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 20. [ss] Re: ss Question

From: s.monsey@att.net
Date: Fri, 03 Aug 2001 01:51:41 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-27567-2001.08.02-21.13.45--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Let me ask this of the group.
What if a ham radio operator took a freq hopping SS
radio and made it not hop, stay on one freq. Have the
radio RX on one freq and TX another? Could we then add a
conventional amp? Maybe even take a 2.4 hopper, make it
not hop, then transvert it to another band such as 440?

Just a thought...

Steve N0FPF

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 21. [ss] Re: ss digest: August 01, 2001

From: Brett Glass <brett@lariat.org>
Date: Thu, 02 Aug 2001 18:29:52 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-27574-2001.08.02-22.01.37--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 06:00 PM 8/2/2001, Jeff King wrote:

>Nope, it is 1 watt output with 6dbi gain.

Just checked, and I stand corrected. It's 1W *output* power
into a 6 dBi antenna.

Most of the systems I've encountered pump at most 250 mW
into a 6 dBi antenna, for an EIRP of a watt. I'd assumed
that this was the limit.

--Brett

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 22. [ss] Re: Ricochet up for auction, going dark?

From: "Shawn T. Rutledge" <ecloud@bigfoot.com>
Date: Thu, 2 Aug 2001 21:08:55 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-27585-2001.08.02-23.31.04--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Thu, Aug 02, 2001 at 05:06:30PM -0600, Brett Glass wrote:
> What's really needed (or what WAS needed; it may now be too
> late) is a change of pricing structure, product offerings, and
> business model. It'd be neat to get some capital, buy the
> company out, and eliminate the dysfunctional aspects that
> led the company to this pass. I'm convinced that, with a bit
> of "thinking outside the box," it could be done. But I sure
> don't have the kind of money necessary to orchestrate the
> buyout.

Yep; I wrote an email to them a long time ago suggesting that if they
would take advantage of people willing to offer homes for hubs, in exchange
for free use of the network, they could have a nationwide network much
more quickly.  I'd gladly volunteer my rooftop for that.  :-)

But maybe the ISM-band networks will beat them to it.  Would be nice.

A few months ago it looked like the Proxim Symphony was going to be the
card of choice for ham networks or rogue NAN's, so I bought several.  Now
it looks like 802.11 may be more popular.  Anybody here involved in such
a network in Phoenix?

--
  _______                      Shawn T. Rutledge / KB7PWD  ecloud@bigfoot.com
 (_  | |_)                          http://ecloud.org  kb7pwd@kb7pwd.ampr.org
 __) | | _____________________________________________________________

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 23. [ss] Re: ss Question

From: Hamish Moffatt <hamish@cloud.net.au>
Date: Sat, 4 Aug 2001 00:32:57 +1000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-27661-2001.08.03-09.55.16--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Fri, Aug 03, 2001 at 01:51:41AM +0000, s.monsey@att.net wrote:
> Let me ask this of the group.
> What if a ham radio operator took a freq hopping SS
> radio and made it not hop, stay on one freq. Have the
> radio RX on one freq and TX another? Could we then add a
> conventional amp? Maybe even take a 2.4 hopper, make it
> not hop, then transvert it to another band such as 440?

Probably.. but why?


Hamish
--
Hamish Moffatt VK3SB <hamish@debian.org> <hamish@cloud.net.au>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 24. [ss] Fwd: Ricochet

From: "Jeff King" <jeff@aerodata.net>
Date: Fri, 3 Aug 2001 12:9:27
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-27680-2001.08.03-12.31.35--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Gene asked me to forward the attached onto the list.

As a comment to Gene's message, it might be a good idea to watch
E-bay for some real good deals. I know the earlier Ricochet's could
be used in a peer to peer mode (point to point) without need for a
access point, but not sure if the newer ones can also be used like
this. I've heard of folks getting up to 10 miles out of these things
in P2P mode, and this would be quite useful for our ham applications.

They are 900mhz frequency hoppers entirely within the ham band.

-Jeff


>From: genem@mail.bee.net
>To: jeff@aerodata.net
>Subject: Ricochet
>Date: Fri, Aug 3 2001 10:47:11 GMT-0400
>
>For some reason, the reflector won't let me reply any more,
>although I still get it. The is Gene K3DSM.
>
>Could you please put this on for others to read.
>
>I use Ricochet
>at work and at home. Home is over 2 miles from the nearest pole top. As a
>user, if there is anything I can contribute,
>let me know. I am not as teckie as some on here. A pole top unit is right
>outside the store here. I love Ricochet. It is my understanding that a
>creditor will be purchasing it and operating it after the auction. There
>will probably be some units that won't be turned back on as users may
move
>on. It would be interesting if they could be modified to ham use.
>
>Gene Mitchell K3DSM  k3dsm@arrl.net  genem@5dnet.com

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 25. [ss] Re: Ricochet up for auction, going dark?

From: "Shannon Holland" <holland@loser.net>
Date: Fri, 3 Aug 2001 10:26:33 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-27684-2001.08.03-12.50.50--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Yep; I wrote an email to them a long time ago suggesting that if they
> would take advantage of people willing to offer homes for hubs,
> in exchange
> for free use of the network, they could have a nationwide network much
> more quickly.  I'd gladly volunteer my rooftop for that.  :-)

They used to do that (4-5 years ago). I know several people who had radios
installed on their rooftops around Los Gatos (mostly in the nearby Santa
Cruz mountains).

Shannon


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 26. [ss] Re: ss Question

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Fri, 3 Aug 2001 15:25:24 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-27729-2001.08.03-15.47.38--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

It is possible to disable hopping on FHSS cards, although
it's not an option in the publicly distributed drivers,
but is in the manufactures software.  Then you wouldn't have
to worry about the stupid automatic power control that only
pertains to SS.  You would still need to make sure your
amplifier and or transverter is capable of the fast
switching TX/RX switching times.

>Let me ask this of the group. What if a ham radio
>operator took a freq hopping SS radio and made it not
>hop, stay on one freq. Have the radio RX on one freq
>and TX another? Could we then add a conventional amp?
>Maybe even take a 2.4 hopper, make it not hop, then
>transvert it to another band such as 440?


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 27. [ss] Re: Fwd: Ricochet

From: "Roy Genger" <roy@genger.com>
Date: Fri, 3 Aug 2001 20:00:08 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-27806-2001.08.03-22.22.05--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Check out www.affinix.com/~justin/stuff/rico.htm  and
http://phobos.illtel.denver.co.us/~abelits/metricom/  gives
a good overview what can be done with the modems.
Roy K6CRE

----- Original Message -----
From: "Jeff King" <jeff@aerodata.net>
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Sent: Friday, August 03, 2001 12:00 PM
Subject: [ss] Fwd: Ricochet


> Gene asked me to forward the attached onto the list.
>
> As a comment to Gene's message, it might be a good idea to watch
> E-bay for some real good deals. I know the earlier Ricochet's could
> be used in a peer to peer mode (point to point) without need for a
> access point, but not sure if the newer ones can also be used like
> this. I've heard of folks getting up to 10 miles out of these things
> in P2P mode, and this would be quite useful for our ham applications.
>
> They are 900mhz frequency hoppers entirely within the ham band.
>
> -Jeff
>
>
> >From: genem@mail.bee.net
> >To: jeff@aerodata.net
> >Subject: Ricochet
> >Date: Fri, Aug 3 2001 10:47:11 GMT-0400
> >
> >For some reason, the reflector won't let me reply any more,
> >although I still get it. The is Gene K3DSM.
> >
> >Could you please put this on for others to read.
> >
> >I use Ricochet
> >at work and at home. Home is over 2 miles from the nearest pole top. As a
> >user, if there is anything I can contribute,
> >let me know. I am not as teckie as some on here. A pole top unit is right
> >outside the store here. I love Ricochet. It is my understanding that a
> >creditor will be purchasing it and operating it after the auction. There
> >will probably be some units that won't be turned back on as users may
> move
> >on. It would be interesting if they could be modified to ham use.
> >
> >Gene Mitchell K3DSM  k3dsm@arrl.net  genem@5dnet.com
>
> ---
> You are currently subscribed to ss as: roy@genger.com
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 28. [ss] Re: Ricochet

From: "Roy Genger" <roy@genger.com>
Date: Fri, 3 Aug 2001 20:18:03 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-27815-2001.08.03-22.39.54--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Sorry that should be www.affinix.com/~justin/stuff/rico.html
Roy K6CRE
----- Original Message -----
From: "Roy Genger" <roy@genger.com>
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Sent: Friday, August 03, 2001 8:00 PM
Subject: [ss] Re: Fwd: Ricochet


> Check out www.affinix.com/~justin/stuff/rico.htm  and
> http://phobos.illtel.denver.co.us/~abelits/metricom/  gives
> a good overview what can be done with the modems.
> Roy K6CRE
>
> ----- Original Message -----
> From: "Jeff King" <jeff@aerodata.net>
> To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
> Sent: Friday, August 03, 2001 12:00 PM
> Subject: [ss] Fwd: Ricochet
>
>
> > Gene asked me to forward the attached onto the list.
> >
> > As a comment to Gene's message, it might be a good idea to watch
> > E-bay for some real good deals. I know the earlier Ricochet's could
> > be used in a peer to peer mode (point to point) without need for a
> > access point, but not sure if the newer ones can also be used like
> > this. I've heard of folks getting up to 10 miles out of these things
> > in P2P mode, and this would be quite useful for our ham applications.
> >
> > They are 900mhz frequency hoppers entirely within the ham band.
> >
> > -Jeff
> >
> >
> > >From: genem@mail.bee.net
> > >To: jeff@aerodata.net
> > >Subject: Ricochet
> > >Date: Fri, Aug 3 2001 10:47:11 GMT-0400
> > >
> > >For some reason, the reflector won't let me reply any more,
> > >although I still get it. The is Gene K3DSM.
> > >
> > >Could you please put this on for others to read.
> > >
> > >I use Ricochet
> > >at work and at home. Home is over 2 miles from the nearest pole top. As
a
> > >user, if there is anything I can contribute,
> > >let me know. I am not as teckie as some on here. A pole top unit is
right
> > >outside the store here. I love Ricochet. It is my understanding that a
> > >creditor will be purchasing it and operating it after the auction.
There
> > >will probably be some units that won't be turned back on as users may
> > move
> > >on. It would be interesting if they could be modified to ham use.
> > >
> > >Gene Mitchell K3DSM  k3dsm@arrl.net  genem@5dnet.com
> >
> > ---
> > You are currently subscribed to ss as: roy@genger.com
> > To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
> >
> >
>
>
> ---
> You are currently subscribed to ss as: roy@genger.com
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 29. [ss] Ricochet: Something's fishy about the sudden shutdown

From: Brett Glass <brett@lariat.org>
Date: Fri, 03 Aug 2001 22:04:02 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-27818-2001.08.03-23.26.23--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

A mere month ago, Metricom announced that it was entering Chapter 11 so as to restructure its debts and look for new financing. Seemed reasonable, considering that the company -- while its technology was promising -- owed so much money. Rumors were floating about that the company was cleaning house in order to be bought.

Then, a few days ago, Metricom announced that it hoped to sell off part or all of the company (perhaps city by city?) "as a going concern."

Well, OK. Maybe they couldn't restructure their debts or get out of all of their commitments. At least the network would be worth pennies on the dollar to a willing buyer -- like Iridium.

Then, just today, Metricom announces that it is terminating service as of August 8, 2001 -- a week before the auction! Its resellers, such as WWC, who have been told that the company was searching in good faith for buyers to keep the service running, are blindsided and thrown into a panic.

At this point, the explanations made by Metricom regarding the bankruptcy proceeding and auction no longer seem to hold water. How can one sell a company as a going concern if it is no longer "going?" Who will buy the infrastructure and customer base in a city after those customers have already been cut off for more than a week, have lost faith in the company, and are seeking other options?

It appears -- and the stockholders and creditors should be outraged at this -- that whoever is running the show is more interested in killing the company, and making its remaining assets worthless, than in actually selling what's left for the greatest possible return. Could it be that Worldcom (a major creditor) wants to see Metricom dead because it represents competition? Or that there are other skeletons hidden in the closets that would make any takeover of the company infeasible? The answers are unclear, but one thing is: Contrary to the court's order, whoever is in charge of the liquidation seems intent upon minimizing, rather than maximizing, the value of the company's assets. And ought to be held responsible for doing so.

--Brett Glass

(Note: I've posted a similar message to Slashdot. Anyone know more?)

---
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## 30. [ss] Re: ss digest: August 01, 2001

From: Jim Ussailis <ussailis@equinox.shaysnet.com>
Date: Sat, 4 Aug 2001 10:29:12 -0400 (EDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: TAPR Spread Spectrum Special Interest Group <ss@lists.tapr.org>
Message-ID: <LYR6751-27898-2001.08.04-09.49.27--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

So, +36 dBi is legal under Part 15, eh? From my work in polarimetric radar, that  is a BIG dish. At 2.7 GHz you can get about +41 dBi from an efficient 24 ft dish. That translates to +35 dBi for a 12 ft dish. Then, you would probably need a 15 ft reflector to get + 36 dBi at 2.45 GHz.

With it would come a 2.2 degree beamwidth, which would preclude the use of a cheap pedstial.

Jim, W1EQO

---
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## 31. [ss] Re: ss digest: August 01, 2001

From: Jeff King <jeff@aerodata.net>
Date: Sat, 04 Aug 2001 15:19:43 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: TAPR Spread Spectrum Special Interest Group <ss@lists.tapr.org>
Message-ID: <LYR6751-27937-2001.08.04-14.40.11--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Jim Ussailis wrote:
>
> So, +36 dBi is legal under Part 15, eh?

36dBm radiated power is the limit for 900mhz, and for 2.4 ghz in multipoint
mode.

See:
http://frwebgate.access.gpo.gov/cgi-bin/get-cfr.cgi?TITLE=47&PART=15&SECTION=247&YEAR=2000&TYPE=TEXT

Specifically, Sec. 15.247 (b)(2)  and Sec. 15.247 (b)(3)

> From my work in polarimetric
> radar, that  is a BIG dish. At 2.7 GHz you can get about +41 dBi from an
> efficient 24 ft dish. That translates to +35 dBi for a 12 ft dish. Then, you
> would probably need a 15 ft reflector to get + 36 dBi at 2.45 GHz.

I looked at my message and I did say dBm (is that right?) and also ERP. I wasn't
specically talking gain, but if you wanted to use such a big dish, and had such
a big dish, and wanted a point to point link on 2.4ghz, it would be advantagous
because on 2.4ghz part 15 pTp, you can run ERP's higher then 36dBm *if* you reduce
your power by 1db for every 3db of gain about 6dBi. So, for your 12 foot dish, which
is fairly obtainable in the form of retired TVRO dishes, we have:

Antenna Gain: 35dBi
Amount of gain over 6dBi: 26dBi
Power reduction from 30dBm required by part 15: 26/3= 8.66dbi
Transmitter power limit: 30dBm-8.66(9) = ~21dBm
System ERP= 21+35 = 56dBm  = 400 watts ERP

Sound right?

> With it would come a 2.2 degree beamwidth, which would preclude the use
> of a cheap pedstial.

Couldn't you use the same TVRO pedistal you got the dish from? Mounting it high
would be the issue unless you had a rooftop.

Personally, I'd rather just use a panel antenna, maybe a Tessco 19dbi gain patch
at ~$54 (18 degree beamwidth) and just run a little higher power. With this
antenna you could run:

Gain above 6dBi:  19-6 = 13 db
Power reduction required: 13/3 = 4.333  (lets say 4 as the connectors will eat some)
Max power = 30dBm-4dBm = 26dBm
ERP= 26 + 19 = 45dBm erp   ~35 watts ERP

Hyperlink has recently reduced the price on their 500mw 2.4ghz poletop amps, I think
in the mid $200 range, so something like the above in entirely doable with off the
shelf gear.

-Jeff

---
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## 32. [ss] Re: ss Question

From: s.monsey@att.net
Date: Sat, 04 Aug 2001 20:16:28 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-27952-2001.08.04-15.38.38--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I wonder if a manufacture will do that? You are right
about a fast switching amp. You can also go with full
duplex which would help. The reason why I asked this is
we are not using alot of the spectrum so going non SS

would be cool too.
> It is possible to disable hopping on FHSS cards, although
> it's not an option in the publicly distributed drivers,
> but is in the manufactures software.  Then you wouldn't have
> to worry about the stupid automatic power control that only
> pertains to SS.  You would still need to make sure your
> amplifier and or transverter is capable of the fast
> switching TX/RX switching times.
>
> >Let me ask this of the group. What if a ham radio
> >operator took a freq hopping SS radio and made it not
> >hop, stay on one freq. Have the radio RX on one freq
> >and TX another? Could we then add a conventional amp?
> >Maybe even take a 2.4 hopper, make it not hop, then
> >transvert it to another band such as 440?
>
>
> ---
> You are currently subscribed to ss as: s.monsey@att.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 33. [ss] Re: Ricochet up for auction, going dark?

From: "Steve Stroh" <lists@strohpub.com>
Date: Sat, 4 Aug 2001 16:12:13 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-27984-2001.08.04-18.35.24--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Brett's not correct in his description of Ricochet backhaul.

Ricochet "2" (Metricom's internal designation for the 128+ Kbps network and components) poletops are designed to use 2.3 GHz WCS spectrum if it's operating in a market where Metricom obtained WCS spectrum. If Metricom had WCS spectrum in a market, it was used as one half of a full-duplex channel - the other half was 2.4 GHz.

In markets where Metricom did not have WCS spectrum, the poletops would operate full-duplex within 2.4 GHz.

Whether to use 2.3 GHz in a market was a software-configurable option, so Ricochet 2 is capable of operating completely under Part 15 rules in any US market.

Thanks,

Steve


--
Steve Stroh   steve@strohpub.com  425-481-0600
Independent Technology Writer
Specializing in Broadband Wireless Internet Access
Focus on Broadband Wireless Internet Access newsletter -
http://www.strohpub.com/focus.htm


> -----Original Message-----
> From: bounce-ss-24593@lists.tapr.org
> [mailto:bounce-ss-24593@lists.tapr.org]On Behalf Of Brett Glass
> Sent: Thursday, August 02, 2001 16:07
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: Ricochet up for auction, going dark?
>
>
> Oooh. The way they're making this offering, they had better
> find a buyer who's willing to take the whole company -- lock,
> stock, and barrel -- or they're in trouble.
>
> You see, Metricom's 128 Kbps service (the only one that's worth
> using, really) runs on 900 MHz from poletop to consumer but
> on licensed 2.3 GHz spectrum from hub to poletop. Now, as I
> understand it, the FCC doesn't allow sublicensing, so only
> the owner of that spectrum license can really make use of
> the Ricochet infrastructure. It can license resellers (which

> it did!), but it must be the one that operates the network.
>
> The equipment (cost: about $1000 per light pole) is useless
> without the license, and the license -- while it is of SOME
> use without the equipment -- would require a huge investment
> to use for any other purpose. Nothing else is made for that
> band.
>
> What's really needed (or what WAS needed; it may now be too
> late) is a change of pricing structure, product offerings, and
> business model. It'd be neat to get some capital, buy the
> company out, and eliminate the dysfunctional aspects that
> led the company to this pass. I'm convinced that, with a bit
> of "thinking outside the box," it could be done. But I sure
> don't have the kind of money necessary to orchestrate the
> buyout.
>
> --Brett

---
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## 34. [ss] Re: Ricochet up for auction, going dark?

From: Brett Glass <brett@lariat.org>
Date: Sun, 05 Aug 2001 00:21:31 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-28079-2001.08.05-01.44.03--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 05:12 PM 8/4/2001, Steve Stroh wrote:

>Whether to use 2.3 GHz in a market was a software-configurable option, so
>Ricochet 2 is capable of operating completely under Part 15 rules in any US
>market.

And thereby making those bands unfit for use by others.

I did manage to talk to some unhappy, furloughed Ricochet people,
and they did confirm that it was possible to run the system entirely
on Part 15 spectrum. Apparently it was less efficient and more expensive
to do it this way, however.

--Brett Glass

---
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## 35. [ss] Re: ss digest: August 01, 2001

From: Jim Ussailis <ussailis@equinox.shaysnet.com>
Date: Sun, 5 Aug 2001 11:34:23 -0400 (EDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: TAPR Spread Spectrum Special Interest Group <ss@lists.tapr.org>
Message-ID: <LYR6751-28126-2001.08.05-10.54.46--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Three comments:

1. Big antenna.

Pointing is always an issue. TVRO antennas point up, so they can be fixed
to the ground with a strong, short pole. Put the same antenna on a Rohn
25, at 30 or 40 ft and that's a different kettle of fish. I don't know how
much wiggle
it would have, but I'll bet it would exceed 5 degrees even with torque
guy mounts.

You ought to see the pedistal I've used for the 24 ft dish at 2.7 GHz. In
1980 it cost a bit over 100K. Base contained the receiver, it was a 5 ft
tube.

Enterprise (Enterprise AL) made some Wx radar antennas with a 12 ft dish
and small pedistal. They had to be in a radome if they were to operate
in a wind speed greater than 25 MPH.

Yes, the screen type TVRO antenna would help a lot.

2. Commerical antennas.

Having designed several, and evaluated a few more, I can say, don't place
a lot of faith in published gain figures. Here is an example. One VERY
LARGE manufacturer of ham antennas also has a large commerical line. One
of their 2.54 GHz yagis was advertised to have a gain of 17.1 dBi (or was it
17.3?). That was in 1997.

My job was to design an antenna for their competition. So task one is to
evaluate the existing antenna I got about 13 dBi. We had this checked at
a univ lab. They got 12.9 dBi, at best.

In 2000 that antenna had an advertised gain around 13.5 dBi. Possibly
truth-in-lending got to them :)

19 dBi is possible, but a lot for a patch array. The problem is the feed
& power division network. It has loss, and the bigger it gets, the more
the loss, especially if fr-4 PCB material is used at 2.45. The loss due
to the material is about 1/2 to 3/4 dB per inch.

So, to get gain you add (most likely double) the number of elements.
Every doubling gets 3 dB. But the feed line and power dividers eat up
more PCB line as this process goes on. At some point of increasing the
number of elements, the gain from the increase equals the added loss of
the "feed structure."

I suspect the max on FR-4 is about 12 to 15 dB. But I could be very wrong.

Why not use Duriod? $80 - 90 / sq ft in quan. Why not use 4003 (cheap
duroid)? $20 / sq ft

3. Power amp

What happened to Pacific Monolithics? (PMI) They had a chip in 1995 that was
supposed to put a Watt at 2.45. It didn't, but came close if the circuit
was tweaked enough, and ATC caps were used. As well as better than FR-4
PCB material.

I have their eval board, and possibly a couple more ICs. Believe I got
the eval board to around 800 mW out. I think the ICs were about $15 in
quan of 50 or so. The remaining cost of the board is about another 15 in
quan. (2 SMAs, 4 or 5 caps, couple of resistors, and a Maxim neg supply
chip with two electrolytics)

Jim, W1EQO

On Sat, 4 Aug 2001, Jeff King wrote:

> 
> 
> Jim Ussailis wrote:
> >
> > So, +36 dBi is legal under Part 15, eh?
> 
> 36dBm radiated power is the limit for 900mhz, and for 2.4 ghz in multipoint
> mode.
> 
> See:
http://frwebgate.access.gpo.gov/cgi-bin/get-cfr.cgi?TITLE=47&PART=15&SECTION=247&YEAR=2000&TYPE=TEXT
> 
> Specifically, Sec. 15.247 (b)(2)  and Sec. 15.247 (b)(3)
> 
> > From my work in polarimetric
> > radar, that  is a BIG dish. At 2.7 GHz you can get about +41 dBi from an
> > efficient 24 ft dish. That translates to +35 dBi for a 12 ft dish. Then, you
> > would probably need a 15 ft reflector to get + 36 dBi at 2.45 GHz.
> 
> I looked at my message and I did say dBm (is that right?) and also ERP. I wasn't
> specically talking gain, but if you wanted to use such a big dish, and had such
> a big dish, and wanted a point to point link on 2.4ghz, it would be advantagous
> because on 2.4ghz part 15 pTp, you can run ERP's higher then 36dBm *if* you reduce
> your power by 1db for every 3db of gain about 6dBi. So, for your 12 foot dish, which
> is fairly obtainable in the form of retired TVRO dishes, we have:
> 
> Antenna Gain: 35dBi

> Amount of gain over 6dBi: 26dBi
> Power reduction from 30dBm required by part 15: 26/3= 8.66dbi
> Transmitter power limit: 30dBm-8.66(9) = ~21dBm
> System ERP= 21+35 = 56dBm  = 400 watts ERP
>
> Sound right?
>
>
> > With it would come a 2.2 degree beamwidth, which would preclude the use
> > of a cheap pedstial.
>
> Couldn't you use the same TVRO pedistal you got the dish from? Mounting it high
> would be the issue unless you had a rooftop.
>
> Personally, I'd rather just use a panel antenna, maybe a Tessco 19dbi gain patch
> at ~$54 (18 degree beamwidth) and just run a little higher power. With this
> antenna you could run:
>
> Gain above 6dBi:  19-6 = 13 db
> Power reduction required: 13/3 = 4.333  (lets say 4 as the connectors will eat some)
> Max power = 30dBm-4dBm = 26dBm
> ERP= 26 + 19 = 45dBm erp   ~35 watts ERP
>
> Hyperlink has recently reduced the price on their 500mw 2.4ghz poletop amps, I think
> in the mid $200 range, so something like the above in entirely doable with off the
> shelf gear.
>
> -Jeff
>

---
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## 36. [ss] Re: ss digest: August 01, 2001

From: Tom Genereaux <entropy@sunflower.com>
Date: Sun, 5 Aug 2001 11:12:37 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-28127-2001.08.05-11.34.52--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Pacific Monolithics is still around as a division of Richardson
Electronics. A PM2117 w/ claimed 29 Dbm output is $16.00, qty 1.

Url: http://www.pmmono.com

On Sunday 05 August 2001 10:34, you wrote:
> Three comments:
>
>
> 3. Power amp
>
> What happened to Pacific Monolithics? (PMI) They had a chip in 1995
> that was supposed to put a Watt at 2.45. It didn't, but came close if
> the circuit was tweaked enough, and ATC caps were used. As well as
> better than FR-4 PCB material.
>
> I have their eval board, and possibly a couple more ICs. Believe I
> got the eval board to around 800 mW out. I think the ICs were about
> $15 in quan of 50 or so. The remaining cost of the board is about
> another 15 in quan. (2 SMAs, 4 or 5 caps, couple of resistors, and a
> Maxim neg supply chip with two electrolytics)
>
>

---
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## 37. [ss] Re: ss Question

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Sun, 5 Aug 2001 15:59:08 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-28166-2001.08.05-16.21.35--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I already asked Proxim that question, and they said no.
Most of the manufactures out there are ultra-paranoid

about stuff like that.  Like I said before this along
with many other "secret" parameters could probably be
changed if someone with the skills to reverse the drivers
gave it a shot.  Here is some reverse engineering of the
Proxim driver that some anonymous person sent us:
http://www.gbonline.com/~multiplx/wireless/lib/index.html
You might get an idea of what types of parameters are
capable of being changed.

>I wonder if a manufacture will do that? You are right
>about a fast switching amp. You can also go with full
>duplex which would help. The reason why I asked this is
>we are not using alot of the spectrum so going non SS
>would be cool too.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 38. [ss] Re: Ricochet up for auction, going dark?

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Sun, 5 Aug 2001 16:25:30 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-28170-2001.08.05-16.47.44--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Do Metricom's 128kbps units have the ability to operate peer-to-peer?
The link someone provided said the 28.8kbps units did..

As for the back haul whether they use 2.3 WCS or 2.4 ISM spectrum, if
someone could quote an actual oppertaing range for the 2.3 that would
be helpful.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 39. [ss] Re: ss digest: August 01, 2001

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Sun, 5 Aug 2001 16:38:55 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-28177-2001.08.05-17.01.16--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

As for Pacific Monolithics, PM2117 there are tons of alternatives.  We
used RF Microdevices RF2126 1 Watt 2.4 GHz RF amplifier IC (About $12
each) Their website is http://www.rfmd.com

And if you use the RF2126 here is our power amplifier schematic:
http://www.gbonline.com/~multiplx/wireless/appendixB.html
(Pre-made PC boards are now available for this project through FAR
Circuits)

Other alternatives:
http://www.gbonline.com/~multiplx/wireless/page10.html

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 40. [ss] Re: Ricochet up for auction, going dark?

From: Brett Glass <brett@lariat.org>
Date: Mon, 06 Aug 2001 12:35:55 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-28386-2001.08.06-13.58.31--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 03:25 PM 8/5/2001, Steve Lampereur wrote:

>Do Metricom's 128kbps units have the ability to operate peer-to-peer?

Yes, they do. However, Metricom added an unfortunate hack to the modem
firmware not long ago. If the modem "acquires" a poletop unit, it refuses
to operate peer-to-peer after that time. It is unclear whether this
was done (a) as a security measure; (b) to reduce overhead or interference;

or (c) to forestall competition by a rival provider that set up its
own Ricochet modem as an access point in the same area.

>As for the back haul whether they use 2.3 WCS or 2.4 ISM spectrum, if
>someone could quote an actual oppertaing range for the 2.3 that would
>be helpful.

They own different chunks of WCS spectrum in different parts of the
country. The auction papers enumerate them.

--Brett

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 41. [ss] Re: Ricochet up for auction, going dark?

From: "Jeff King" <transit_man@hotmail.com>
Date: Mon, 06 Aug 2001 19:20:50 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-28402-2001.08.06-14.43.13--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Brett Glass <brett@lariat.org> wrote:

>At 03:25 PM 8/5/2001, Steve Lampereur wrote:
>
> >Do Metricom's 128kbps units have the ability to operate peer-to-peer?
>
>Yes, they do. However, Metricom added an unfortunate hack to the modem
>firmware not long ago. If the modem "acquires" a poletop unit, it refuses
>to operate peer-to-peer after that time.

Of course, if they do go dark, then hopefully they will turn off the
poletop units so they can be used in that manner. Otherwise, I imagine
a well placed .22 caliber bullet could disable this function in the
pole top unit.

Just kidding....  ;-)

Has anyone ever used the STRIP driver that Mary Baker (mosquito net)
and crew developed with the 128K unit? If so, would like to hear about
it.

Regards,

Jeff

_____
Get your FREE download of MSN Explorer at http://explorer.msn.com/intl.asp

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 42. [ss] Ricochet poletop units to be abandoned?

From: Jeff King <jeff@aerodata.net>
Date: Tue, 07 Aug 2001 02:41:33 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-28585-2001.08.07-02.02.05--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Not to start rumors, but I was on the Yahoo Finance board reading
some posts, one of them by one of the people that attended the auction
hearing, he said the following:

from:
http://messages.yahoo.com/bbs?.mm=FN&action=m&board=4686777&tid=mcom&sid=4686777&mid=224715

>Network customers disconnected within 10 days, 69,000 poletop radios abandoned.
>1700 Waps abandoned after disposing of batteries and freon used in their A/C units.
>some commodity equipment will be salvaged from NIFs and the two NOCs and auctioned off.
>The rest of MCOM's $120 million would then be used to pay off bondholders, creditors,
>and preferreds.

I'm going to call my city manager tommorrow, and see what his take on this is... maybe it
is time to get a ladder out and snag one.

One interesting note on the above.... 69,000 poletop units and 51,000 customers.... I'm
assuming there goal was some sort of modem ratio on these things similar to most ISP's.
At least I now know why every Ricochet user I talked with was so happy with the speed....
every user had what amounted to a dedicated line.

Whole thing is sad however. It was a good idea.

-Jeff

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 43. [ss] Re: ss digest: August 07, 2001

From: Jim Ussailis <ussailis@equinox.shaysnet.com>
Date: Wed, 8 Aug 2001 09:14:46 -0400 (EDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: ss digest recipients <ss@lists.tapr.org>
Message-ID: <LYR6751-28831-2001.08.08-08.35.11--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

More genius management!

The whole thing in place and thrown away. Could it not be worth 50
cents...sounds like that's more money than nothing + the disposal cost of
batteries & freon.

 Jim W1EQO

PS Old Scottish saying: "look after the pennies and the dollars will look
after themselves." Management schools, take heed.

On Wed, 8 Aug 2001, TAPR Spread Spectrum Special Interest Group digest wrote:

> TAPR Spread Spectrum Special Interest Group Digest for Tuesday, August 07, 2001.
>
> 1. Ricochet poletop units to be abandoned?
>
> ----------------------------------------------------------------------
>
> Subject: Ricochet poletop units to be abandoned?
> From: Jeff King <jeff@aerodata.net>
> Date: Tue, 07 Aug 2001 02:41:33 -0400
> X-Message-Number: 1
>
> Not to start rumors, but I was on the Yahoo Finance board reading
> some posts, one of them by one of the people that attended the auction
> hearing, he said the following:
>
> from:
> http://messages.yahoo.com/bbs?.mm=FN&action=m&board=4686777&tid=mcom&sid=4686777&mid=224715
>
> >Network customers disconnected within 10 days, 69,000 poletop radios abandoned.
> >1700 Waps abandoned after disposing of batteries and freon used in their A/C units.
> >some commodity equipment will be salvaged from NIFs and the two NOCs and auctioned off.
> >The rest of MCOM's $120 million would then be used to pay off bondholders, creditors,
> >and preferreds.
>
> I'm going to call my city manager tommorrow, and see what his take on this is... maybe it
> is time to get a ladder out and snag one.
>
> One interesting note on the above.... 69,000 poletop units and 51,000 customers.... I'm
> assuming there goal was some sort of modem ratio on these things similar to most ISP's.
> At least I now know why every Ricochet user I talked with was so happy with the speed....
> every user had what amounted to a dedicated line.
>
> Whole thing is sad however. It was a good idea.
>
> -Jeff
>
>
>
> ---

> 
> END OF DIGEST
> 
> ---
> You are currently subscribed to ss as: ussailis@shaysnet.com
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
> 
> 

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 44. [ss] Re: [aprssig] Metricom / Ricochet packet network goes Bye-bye today

From: Jeff King <jeff@aerodata.net>
Date: Wed, 08 Aug 2001 18:34:09 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: TAPR APRS Special Interest Group <aprssig@lists.tapr.org>,
        ss@lists.tapr.org
Message-ID: <LYR6751-28910-2001.08.08-17.54.38--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Ralph:

This is a fascinating read. I'm copying it to the SS list also as I'm
sure some there would find it interesting as well.

In particular the specifics of the network are discussed later in the
document including customer loading ratios.

Lets see, here in Detroit we had 89 Waps and 3547 poletop units. And
there are 315 ricochet customers.  That is a ratio of 1:11.5 (note
the ratio is reversed). I believe the target was of active was
8:1.

Not much better in other places.

Patents also look interesting.

-Jeff

rwf@bsrg.org wrote:

> This link contains a PDF that really describes the technical, marketing,
> and financials behind the endeavor.
> It even lists their patents on various technologies they
> use.  (interestingly they have one on how they AVOID existing systems in
> the spectrum they are UNLICENSED to use).
> If you are interested in finally seeing some of their secrets, have a look.


> http://www.metricom.com/information/assestlist.PDF

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 45. [ss] Metricom (Was: ss digest recipients)

From: Brett Glass <brett@lariat.org>
Date: Wed, 08 Aug 2001 18:28:11 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-28919-2001.08.08-19.50.38--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 07:14 AM 8/8/2001, Jim Ussailis wrote:

>More genius management!
>
>The whole thing in place and thrown away.

Indeed. I and a few others placed calls to the person who is supposedly
managing their liquidation, asking if the equipment they'd overpurchased
(they have a huge inventory of extra poletops and wired access points)
was for sale. (I live in a small town, and we could actually deploy this
as part of the community wireless network. At one time we were worried that
they'd come in and interfere with our signals, but we could avoid this if
we did the deployment.)

We received no callback. They are acting as if they do not WANT to salvage

their goodwill, accounts, or assets.

--Brett Glass

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 46. [ss] Re: Metricom (Was: ss digest recipients)

From: Jeff King <jeff@aerodata.net>
Date: Wed, 08 Aug 2001 20:36:54 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-28920-2001.08.08-19.57.24--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Brett Glass wrote:

> We received no callback. They are acting as if they do not WANT to salvage
> their goodwill, accounts, or assets.

Take a look at the link I posted. All the bidders were prequailified and that
process I believe took place around the 1st of August. Implies to me that it
may be sold as a going concern, much as the auction notice implies.

-Jeff

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 47. [ss] Re: Metricom (Was: ss digest recipients)

From: Brett Glass <brett@lariat.org>
Date: Wed, 08 Aug 2001 18:40:46 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-28921-2001.08.08-20.03.17--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 06:36 PM 8/8/2001, Jeff King wrote:

>Take a look at the link I posted. All the bidders were prequailified and that
>process I believe took place around the 1st of August.

We downloaded and read that document more than a week ago. Read it more
carefully. Certain bidders were prequalified, but anyone can sign up to bid at
the auction as little as 24 hours beforehand.

>Implies to me that it
>may be sold as a going concern, much as the auction notice implies.

If they shut off access (as they say they will do 20 minutes from now!),
they no longer have a going concern.

--Brett Glass

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 48. [ss] Re: Ricochet poletop units to be abandoned?

From: Jeff King <jeff@aerodata.net>
Date: Sun, 12 Aug 2001 23:33:08 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: wear-hard@haven.org, ss@lists.tapr.org
Message-ID: <LYR6751-29630-2001.08.12-22.56.21--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

If anything, good pictures:

http://cgi.ebay.com/aw-cgi/eBayISAPI.dll?ViewItem&item=1263808320

-Jeff

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 49. [ss] Re: Ricochet poletop units to be abandoned?

From: Brett Glass <brett@lariat.org>
Date: Mon, 13 Aug 2001 14:00:00 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-29766-2001.08.13-15.22.47--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 09:33 PM 8/12/2001, Jeff King wrote:

>http://cgi.ebay.com/aw-cgi/eBayISAPI.dll?ViewItem&item=1263808320

Yes, but the bidding is up too high already. These are worth zero
unless you own a "wired access point." Which Metricom won't sell....
Heck, when we've called to ask about bidding on equipment at
auction, they haven't even returned the phone calls. Despite the
fact that they have a fiduciary duty to their creditors to get
as much as possible for what's left of their network.

--Brett

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 50. [ss] Re: Ricochet poletop units to be abandoned?

From: "Jeff King" <transit_man@hotmail.com>
Date: Mon, 13 Aug 2001 20:41:27 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-29770-2001.08.13-16.04.03--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Brett Glass <brett@lariat.org> wrote:

>At 09:33 PM 8/12/2001, Jeff King wrote:
>
> >http://cgi.ebay.com/aw-cgi/eBayISAPI.dll?ViewItem&item=1263808320
>
>Yes, but the bidding is up too high already.

I just thought some would find it entertaining. Never suggested
anyone buy it, although obviously some people see some value in it.

>Heck, when we've called to ask about bidding on equipment at
>auction, they haven't even returned the phone calls.

The Metricom bidder's had to be pre-qualified, even though as someone
pointed
out, the documents say otherwise. Ebay is the closest you'll get to
a auction.

Sometimes life isn't fair, and the stockholders of Metricom are alot
worse off then you or I (assuming you didn't get caught holding any
stock that is).

-Jeff

_____
Get your FREE download of MSN Explorer at http://explorer.msn.com/intl.asp

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 51. [ss] Re: Ricochet poletop units to be abandoned?

From: Brett Glass <brett@lariat.org>
Date: Mon, 13 Aug 2001 16:39:51 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-29794-2001.08.13-18.02.38--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 02:41 PM 8/13/2001, Jeff King wrote:

>The Metricom bidder's had to be pre-qualified, even though as someone pointed

>out, the documents say otherwise.

If the company requires anything that's not in the document, it is violating
the judge's order and can be cited for contempt of court.

--Brett Glass

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 52. [ss] Re: Ricochet poletop units to be abandoned?

From: Jeff King <jeff@aerodata.net>
Date: Mon, 13 Aug 2001 19:09:45 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-29801-2001.08.13-18.30.27--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Brett Glass wrote:
>
> At 02:41 PM 8/13/2001, Jeff King wrote:
>
> >The Metricom bidder's had to be pre-qualified, even though as someone pointed
> >out, the documents say otherwise.
>
> If the company requires anything that's not in the document, it is violating
> the judge's order and can be cited for contempt of court.

Then I suggest you contact the judge... I have nothing to do with Metricom or
their business practices. Not disagreeing with you Brett.

-Jeff

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 53. [ss] Re: Ricochet poletop units to be abandoned?

From: Aleksandr Milewski <n6mod@milewski.org>
Date: Tue, 14 Aug 2001 12:36:33 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-29999-2001.08.14-15.10.35--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 11:33 PM -0400 on 8/12/01, you commanded the electrons to create a
missive titled "[ss] Re: Ricochet poletop units to be abandoned?":
|If anything, good pictures:
|
|http://cgi.ebay.com/aw-cgi/eBayISAPI.dll?ViewItem&item=1263808320
|
|-Jeff
|
|---
|You are currently subscribed to ss as: N6MOD@AMT.ORG
|To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

Yawn.

Leaving aside all the misinformation about the lack of peer-to-peer
connectivity, this is an old 100k (28.8k advertised) poletop.

This is _not_ the 2.3/2.4 radio, but one of the old 902-928 radios.

-Zandr
--
---
Aleksandr Milewski N6MOD
n6mod@milewski.org http://www.milewski.org/

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 54. [ss] Re: Ricochet poletop units to be abandoned?

From: Bob Lorenzini <hwm@newportharbornet.com>
Date: Wed, 15 Aug 2001 10:16:14 -0700 (PDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>

Message-ID: <LYR6751-30119-2001.08.15-12.38.53--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At the moment on Ebay is a number of Rangelan2 OEM units from a
distributor. I bought a 7422 pcmcia for 39.95 to complement my existing
link using 7921 access points. This is a great price. There is also
some 7521 access points (500mw) starting at $199.00. I don't see the
prices getting bid up for some reason. I have no connection with the
seller. YMMV.

Bob - wd6dod

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 55. [ss] Re: Ricochet poletop units to be abandoned?

From: Brett Glass <brett@lariat.org>
Date: Wed, 15 Aug 2001 16:35:50 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-30140-2001.08.15-17.58.41--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

As I recall, RangeLAN2 was their first-generation 2.4 GHz product,
and ran no faster than their original 900 MHz RangeLAN (that is,
between 1 and 2 Mbps). Not nearly as fast as 802.11b. I suspect
that the market for these will be limited.

--Brett

At 11:16 AM 8/15/2001, Bob Lorenzini wrote:

>At the moment on Ebay is a number of Rangelan2 OEM units from a
>distributor. I bought a 7422 pcmcia for 39.95 to complement my existing
>link using 7921 access points. This is a great price. There is also
>some 7521 access points (500mw) starting at $199.00. I don't see the
>prices getting bid up for some reason. I have no connection with the
>seller. YMMV.
>
>Bob - wd6dod
>
>
>---
>You are currently subscribed to ss as: BRETT@LARIAT.ORG
>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 56. [ss] Rangelan's on EBAY, was re: Ricochet units

From: Jeff King <jeff@aerodata.net>
Date: Wed, 15 Aug 2001 18:48:05 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-30141-2001.08.15-18.08.40--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Brett Glass wrote:
>
> As I recall, RangeLAN2 was their first-generation 2.4 GHz product,
> and ran no faster than their original 900 MHz RangeLAN (that is,
> between 1 and 2 Mbps). Not nearly as fast as 802.11b. I suspect
> that the market for these will be limited.

They are either 800kbps or 1.6mbps depending on what mode they are
in. They are much better suited to long range applications then 802.11b
products due to the fact they are FH and not DSSS. Drivers exist for these
in both Linux and windows.

These units get alot of praise on the Wireless ISP list. I'm presently doing
a commercial product (68332 consulting job) using the proxim OEM module which
is the same RF deck as the rangelan. Output power is 100mw on the OEM module
and I think the same on the standard Rangelan.

Also, since these are a proprietary standard (I think they call it open air)
drive-by hacking is less of a problem as compared to 802.11b.

-Jeff

> At 11:16 AM 8/15/2001, Bob Lorenzini wrote:

> >At the moment on Ebay is a number of Rangelan2 OEM units from a
> >distributor. I bought a 7422 pcmcia for 39.95 to complement my existing
> >link using 7921 access points. This is a great price. There is also
> >some 7521 access points (500mw) starting at $199.00. I don't see the
> >prices getting bid up for some reason. I have no connection with the
> >seller. YMMV.

> >Bob - wd6dod

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 57. [ss] [Re: Ricochet poletop units to be abandoned?]

From: Jeff King <jeff@aerodata.net>
Date: Wed, 15 Aug 2001 18:49:49 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-30142-2001.08.15-18.10.56--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Some stuff not making it to the SS list, I'm forwarding some responses
that were copied to the SS list from the wearables list.

-------- Original Message --------
Subject: Re: Ricochet poletop units to be abandoned?
Resent-Date: Tue, 14 Aug 2001 22:06:55 -0400
Resent-From: wear-hard@haven.org
Date: Tue, 14 Aug 2001 19:06:59 -0700
From: Michael Paine <mpaine@htxml.com>
Reply-To: wear-hard@haven.org
To: wear-hard@haven.org, Charles Bolton <charles@bolton.com>
CC: ss@lists.tapr.org
References:
<Pine.BSF.3.96.1010807095920.24262A-100000@thesync.com><003501c11f94$ccd904c0$1eaccd3f@neuralocity.com><
005801c12103$2452a8e0$f71e5094@cellnet.com>
<3B774A74.5E4B59A8@aerodata.net>

Anyone in San Jose going to the Ricochet auction this thursday @ 10am?  333
W. Julian St.. if so, meet ya there.  If not, if you are interested, I can
bid for you on items..

what would be hilarious is to setup a GS modem onto my LAN via RRAS and use
another one there at the auction (about 2 miles from my house), and do a
simulcast of the event via point to point (which they don't support -- err,
I guess they don't support anything now)   :-)

I'm going to ping people there and meet a few of their ex-Ricochet engineers
and get some "inside" tips.  Too fun.

---
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## 58. [ss] [Re: Ricochet poletop units to be abandoned?]

From: Jeff King <jeff@aerodata.net>
Date: Wed, 15 Aug 2001 18:51:11 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-30143-2001.08.15-18.11.55--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

-------- Original Message --------
Subject: Re: Ricochet poletop units to be abandoned?
Resent-Date: Thu, 9 Aug 2001 14:43:27 -0400
Resent-From: wear-hard@haven.org
Date: Thu, 9 Aug 2001 11:42:58 -0700
From: "Charles Bolton" <charles@bolton.com>
Reply-To: "Charles Bolton" <charles@bolton.com>
To: <wear-hard@haven.org>
CC: <ss@lists.tapr.org>
References: <Pine.BSF.3.96.1010807095920.24262A-100000@thesync.com>
<003501c11f94$ccd904c0$1eaccd3f@neuralocity.com>

You might be able to do point to point links by dialing another ricochet as
you would a modem using the serial number of the unit.

Without a field radio that has a "god" level password you can not reprogram
the poletops.  If that could be done the units could be used for small local
networks.

If you an ATS300? command with a direct connect to your ricochet modem you
will note some of the configuration information installed in the modem.

This can be altered for specialized local activities and I believed that
Metricom has some experimental networks that could be re-configured and
supported by the pole tops.

Also you could always configure one ricochet with high gain antenna on the
top of your roof  connected to a router/server or phone modem as a bridge.
If the ricochet in the field could see the bridge ricochet you could access
the net this way.

Or you could create a Star mode hub using the Star protocol supported by
ricochet for small neighborhood networks.

Note that if the junk this stuff, there may be some of these units showing
up at local RF surplus shops.  There are serial ports inside the box to
program the unit.  The power supply cable is a sandwich connector that goes
between the top  of the pole connector and a light sensor switch that
controls street light operation.  This can be adapted to a 110 AC plug.  The
antenna is a 6 dBi gain Omni whip.

If anyone can find one and access the serial port - please publish your
findings so that we can make use of the hardware.  Once we know how to
re-configure the units, they could be mounted on top of  roofs or in attics
or other high points.  If you have your own bucket truck you could mount it
on a street light and maybe no one would notice.

Anyway, if metricom and ricochet goest the way of the Newton, we should
continue this dialog to keep this technology useful.

I am really tired of superior technology getting trashed.  The joke here is
that I am loosing a good solid RF solution and my only option is CDPD while
promised at 19.2 is often less than that.

We lost the Newton and got the palm pilot.

The moral is that superior technology does not always win the market, but
superior market presence and marketing hype does too often when.  And the
general public doesn't care because they don't ever know what they missed.
The investor only wants to see a return this quarter.  If the private sector
had financed the Manhattan project, we would never have developed the atomic
bomb.  They would have pulled the plug by early 1943.  Or think what would
have happened if the internet had been turned over to private investors in
the mid 1970's.

cordially

cb

----- Original Message -----
From: "Michael Paine" <mpaine@htxml.com>
To: <wear-hard@haven.org>
Cc: <ss@lists.tapr.org>
Sent: Tuesday, August 07, 2001 4:00 PM
Subject: Re: Ricochet poletop units to be abandoned?


> very true.  In fact, if they turn off their DNS routers, then we might be
> able to do that (if I remember, the GS modem's firmware would require a
> "DNS" route to the provider -- this stopped point-to-point communications
> through the network, no?)
>
> ----- Original Message -----
> From: "Thomas Edwards" <thomas@thesync.com>
> To: <wear-hard@haven.org>
> Cc: <ss@lists.tapr.org>
> Sent: Tuesday, August 07, 2001 7:00 AM
> Subject: Re: Ricochet poletop units to be abandoned?
>
>
> >

> > On Tue, 7 Aug 2001, Jeff King wrote:
> >
> > > >Network customers disconnected within 10 days, 69,000 poletop radios
> abandoned.
> > > >1700 Waps abandoned after disposing of batteries and freon used in
> their A/C units.
> > > >some commodity equipment will be salvaged from NIFs and the two NOCs
> and auctioned off.
> > > >The rest of MCOM's $120 million would then be used to pay off
> bondholders, creditors,
> > > >and preferreds.
> >
> > I wonder what the power deal was - I assume they are going to stay
> > "plugged in".  If they stay powered, I wonder what kind of local
networks
> > could be set up using them.
> >
> > -Thomas
> >

---
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## 59. [ss] Re: Rangelan's on EBAY, was re: Ricochet units

From: Brett Glass <brett@lariat.org>
Date: Wed, 15 Aug 2001 16:58:59 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-30145-2001.08.15-18.21.48--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 04:48 PM 8/15/2001, Jeff King wrote:

>They are either 800kbps or 1.6mbps depending on what mode they are
>in. They are much better suited to long range applications then 802.11b
>products due to the fact they are FH and not DSSS.

Actually, in my experience DSSS works much better than FH over long
distances with directional antennas. FH is a bit better in short-range
applications when there's a need to punch through noise or if one
or both antennas are omnidirectional.

FH isn't true spread spectrum. It's merely a quickly retuned
narrowband radio.

--Brett Glass

---
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## 60. [ss] Re: [Re: Ricochet poletop units to be abandoned?]

From: Brett Glass <brett@lariat.org>
Date: Wed, 15 Aug 2001 17:08:30 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-30147-2001.08.15-18.31.36--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 04:51 PM 8/15/2001, Charles Bolton wrote:

>You might be able to do point to point links by dialing another ricochet as
>you would a modem using the serial number of the unit.

So long as Metricom doesn't have any working infrastructure in the area.
Star mode stops working once the modem has received a "name" from a
Metricom "name server."

>I am really tired of superior technology getting trashed.

Metricom is superior to CDPD, but not to what people could have
deployed given sufficient licensed spectrum and more up-to-date
technology. Ricochet couldn't surpass 128 Kbps because it was on the
ISM bands (and ruined that public common for other users, by the way;
this should not have been legal!). They were also using rather crudely
designed hoppers instead of FQDM or CDMA technology. Alas, the
artificially (that is to say, politically) created spectrum shortage

prevented them or anyone else from rolling out technology that would
have been competitive with DSL.

--Brett Glass

---
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## 61. [ss] Re: Rangelan's on EBAY, was re: Ricochet units

From: Jeff King <jeff@aerodata.net>
Date: Wed, 15 Aug 2001 19:20:33 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-30148-2001.08.15-18.41.10--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Brett Glass wrote:
>
> At 04:48 PM 8/15/2001, Jeff King wrote:
>
> >They are either 800kbps or 1.6mbps depending on what mode they are
> >in. They are much better suited to long range applications then 802.11b
> >products due to the fact they are FH and not DSSS.
>
> Actually, in my experience DSSS works much better than FH over long
> distances with directional antennas.

Most DSSS units on the market are more sensitive then FH units. However, I said
was better suited for long range links, not work better occasionally. FH degrades
much more gracefully in the presence of narrowband interferers then DSSS does.

You might want to try a freewave also if your looking for a long range FH'er
to check out. I've not seen anything that can get near them as far as long range
reliable performance.

> FH is a bit better in short-range
> applications when there's a need to punch through noise

I'd think that statement would be even more important in a long range link.

> FH isn't true spread spectrum. It's merely a quickly retuned
> narrowband radio.

Well.... your standard Part 15 DSSS radio only has 10-11db of process gain, so
it is barely a SS radio as well!  But, put a narrow band emitter in the passband
of that DSSS radio that is >11db above the SS signal, and bam, your link is
totally gone. A FH link will only degrade in speed, it won't be totally taken
out like a DSSS link. Case in point was a 900mhz DSSS wavelan card I had a ISP...
it could barely do 1/4mile and half the time it was not working. We had a inband
pager nearby. But a FH, same antenna, similar power, could do 2 miles to a
back of the set antenna and 2-4 miles to a mobile. Sure, the FH was slower then
the DSSS wavelan, but it got through when the DSSS could not.

-Jeff

---
You are currently subscribed to ss as: lyris.ss@tapr.org
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## 62. [ss] Re: [Re: Ricochet poletop units to be abandoned?]

From: Jeff King <jeff@aerodata.net>
Date: Wed, 15 Aug 2001 19:22:27 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-30149-2001.08.15-18.43.03--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Brett:

If you want Charles to respond, you'll need to copy it to him. He is not
on this list. I had crossposted the first message to the wearables list as
well as this one. His e-mail is in the forwarded post.

-Jeff

Brett Glass wrote:
>
> At 04:51 PM 8/15/2001, Charles Bolton wrote:

>
> >You might be able to do point to point links by dialing another ricochet as
> >you would a modem using the serial number of the unit.
>
> So long as Metricom doesn't have any working infrastructure in the area.
> Star mode stops working once the modem has received a "name" from a
> Metricom "name server."
>
> >I am really tired of superior technology getting trashed.
>
> Metricom is superior to CDPD, but not to what people could have
> deployed given sufficient licensed spectrum and more up-to-date
> technology. Ricochet couldn't surpass 128 Kbps because it was on the
> ISM bands (and ruined that public common for other users, by the way;
> this should not have been legal!). They were also using rather crudely
> designed hoppers instead of FQDM or CDMA technology. Alas, the
> artificially (that is to say, politically) created spectrum shortage
> prevented them or anyone else from rolling out technology that would
> have been competitive with DSL.
>
> --Brett Glass
>
> ---
> You are currently subscribed to ss as: jeff@aerodata.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 63. [ss] Re: Rangelan's on EBAY, was re: Ricochet units

From: "Eric S. Johansson" <esj@harvee.billerica.ma.us>
Date: Wed, 15 Aug 2001 19:23:24 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-30150-2001.08.15-18.46.10--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 07:20 PM 8/15/2001 -0400, you wrote:
>Well.... your standard Part 15 DSSS radio only has 10-11db of process gain, so
>it is barely a SS radio as well!

this raises the question of how can one increase process gain in a standard
part 15 DSSS radio?  my memory says increasing process gain will also
decrease throughput at a given bandwidth.  Is this correct?

---eric


---
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## 64. [ss] Re: Rangelan's on EBAY, was re: Ricochet units

From: Brett Glass <brett@lariat.org>
Date: Wed, 15 Aug 2001 18:47:44 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-30169-2001.08.15-20.10.36--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 05:20 PM 8/15/2001, Jeff King wrote:

>Most DSSS units on the market are more sensitive then FH units. However, I said
>was better suited for long range links, not work better occasionally.

Nope. DSSS is far better suited for long range links, because it does not
even BEGIN to degrade unless there is a substantial amount of interference.
FH degrades pretty much linearly with interference. On a long range link,
you're likely to be using highly directional antennas, so you'll stay
well below the threshold at which there is any degradation in a DSSS
system,.

>FH degrades
>much more gracefully in the presence of narrowband interferers then DSSS does.

Again, it begins degrading immediately whereas DSSS does not degrade at
all until the band is very noisy.

>> FH is a bit better in short-range
>> applications when there's a need to punch through noise

>
>I'd think that statement would be even more important in a long range link.

No, it's not. The interference you'll encounter on a long range link is
very different from what you will see on short range links. I've measured
both.

>> FH isn't true spread spectrum. It's merely a quickly retuned
>> narrowband radio.
>
>Well.... your standard Part 15 DSSS radio only has 10-11db of process gain, so
>it is barely a SS radio as well!

Depends on the band. The figures you mention above are true for 900 MHz,
which is a relatively narrow band. But on 2.4 GHz, much higher process gains
are typical.

12 dB is substantial. It means that an interfering signal is attenuated by a
factor of 8 at the get-go. And that's before other factors, such as antenna
directionality, polarization, and forward error correction (Trellis coding
is common in DSSS modulation schemes).

>  But, put a narrow band emitter in the passband
>of that DSSS radio that is >11db above the SS signal, and bam, your link is
>totally gone.

Not true. A properly designed long range link can handle quite a bit more
than that.

>A FH link will only degrade in speed, it won't be totally taken
>out like a DSSS link. Case in point was a 900mhz DSSS wavelan card I had a ISP...
>it could barely do 1/4mile and half the time it was not working.

Sounds like something was not designed correctly. I've gotten 6 miles out of
the original WaveLAN, running under Part 15, in the presence of other emitters.
Without the interference, it probably would have gone farther. This isn't
to say that someone couldn't take you down by deploying a huge swarm of hoppers,
all operating at the legal limit, directly in your path. (This is what
Metricom did, and it drove everyone else off 900 MHz in the cities where
they deployed. They essentially took over a public resource.)

--Brett

---
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## 65. [ss] Re: Rangelan's on EBAY, was re: Ricochet units

From: Jeff King <jeff@aerodata.net>
Date: Wed, 15 Aug 2001 22:54:36 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-30199-2001.08.15-22.15.13--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Brett Glass wrote:
>
> At 05:20 PM 8/15/2001, Jeff King wrote:
>
> >Most DSSS units on the market are more sensitive then FH units. However, I said
> >was better suited for long range links, not work better occasionally.
>
> Nope. DSSS is far better suited for long range links, because it does not
> even BEGIN to degrade unless there is a substantial amount of interference.

All this tells me is you haven't actually done very much long range Part 15 spread
spectrum in urban areas (i.e. the real world). I have and I'm not going to argue
about it with you. If that is what you want to do, here are some links to keep
you busy.

Jeff

http://www.proxim.com/wireless/whiteppr/select.shtml#compare
http://www2.hom.net/ISPCON98/sld006.htm
http://www.wireless-nets.com/whitepaper_spread.htm
http://www.digital-wireless.com/ip_tech.htm
http://www.digital-wireless.com/ipfaq3.htm
http://www.ictp.trieste.it/~radionet/1997_workshop/wireless/notes/sld024.htm
http://www.ictp.trieste.it/~radionet/1997_workshop/wireless/notes/sld023.htm

http://www.ictp.trieste.it/~radionet/1997_workshop/wireless/notes/sld022.htm
http://www.bazar-e.net/raylink/docs/doc_frecuencehoping.htm
http://www.cs.technion.ac.il/Courses/Computer-Networks-Lab/projects/spring99/wireless/fhvds.html
http://www.compsee.com/libraries/educate/applications/erapplicationsrf-faq.htm
http://www.apexwireless.com/aptech.htm
http://www.idsystems.com/reader/1998_12/hol1298_sb1.htm
http://www.csd.uwo.ca/courses/CS457a/reports/handin/yning/A1/sscomp.html
http://www.omnexcontrols.com/faq.html#anchor108745
http://cas.et.tudelft.nl/%7Eglas/ssc/techn/techniques.html
http://www.raylink.com/whitepaper/fhss_dsss.pdf
http://www.dycor.ca/wireless_data/spread_spectrum_faq.html#advantage/disadvantage%20of%20direct%20sequence%20vs.%20frequency%20hopping
http://www.occug.com/files/wireless/sld014.htm

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## 66. [ss] Re: Rangelan's on EBAY, was re: Ricochet units

From: Brett Glass <brett@lariat.org>
Date: Wed, 15 Aug 2001 21:32:57 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-30217-2001.08.15-22.55.57--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 08:54 PM 8/15/2001, Jeff King wrote:

>All this tells me is you haven't actually done very much long range Part 15 spread
>spectrum in urban areas (i.e. the real world).

It seems to me that you're being quite chauvinistic by claiming that only
urban areas are the "real world." The areas which benefit most from wireless
are, in fact, rural areas -- where lower population densities and greater
distances make the use of wireless more rewarding. In urban areas, wires
are ubiquitous and the use of wireless can be limited to the last 100 feet.

I've worked with spread spectrum in both urban and rural environments, and
-- again -- frequency hopping is primarily useful in "battle zones" where
too many transmitters are competing for too little available spectrum. Like
Metricom, they sacrifice throughput for energy per bit in an attempt to deal
with the jungle-like urban environment and/or penetrate walls. A little bit
of data squeaks through, but not nearly as much as if one had a reasonable
radio environment and a true spread spectrum modulation scheme.

This tradeoff was Metricom's downfall. Ricochet simply couldn't compete, on
price or speed, with DSL. Why? Because Metricom had to deploy thousands of
poletop relays to combat interference and penetrate buildings, thus blowing
infrastructure costs right through the roof. And it couldn't achieve more
than 128 Kbps. DSSS on the 900 MHz band (the band Metricom used) can easily
do 4 Mbps. I know; I set up a link that uses it last month. It's working
perfectly... in the real world.

--Brett

---
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## 67. [ss] Re: Rangelan's on EBAY, was re: Ricochet units

From: Jeff King <jeff@aerodata.net>
Date: Thu, 16 Aug 2001 00:16:41 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-30224-2001.08.15-23.37.15--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Brett Glass wrote:
>
> At 08:54 PM 8/15/2001, Jeff King wrote:
>
> >All this tells me is you haven't actually done very much long range Part 15 spread
> >spectrum in urban areas (i.e. the real world).
>
> It seems to me that you're being quite chauvinistic by claiming that only
> urban areas are the "real world." The areas which benefit most from wireless
> are, in fact, rural areas -- where lower population densities and greater
> distances make the use of wireless more rewarding.

Sorry, by real world I mean how things really are, as opposed to how we wish

they were. When someone is paying you to perform a service for them or you are
putting up a mission critical link, it is important to grasp this concept.

I am moving to a rural area now.... biggest town in the county is 8000 people and
I'm in the middle of the cows and the fields. Yet look at what I said in
the prior message:

>> Most DSSS units on the market are more sensitive then FH units. However, I said
>> was better suited for long range links, not work better occasionally. FH degrades
>> much more gracefully in the presence of narrowband interferers then DSSS does.

If I was putting up a PtP part 15 link today, a link I wanted to be reliable on a day
to day basis, I'd use a frequency hopping unit. And that is exactly what I
would use in a rural area. Yes, the noise floor is far lower, yet farmer Jones
next door to me can still fire up his Siemens 2.4ghz phone, and I know a FH
unit will tolarate that better then a DSSS unit.

Yes, if your trying to get the most range and the highest speed, it is DSSS
hands down. But sometimes reliability also is a factor.

> I've worked with spread spectrum in both urban and rural environments, and
> -- again -- frequency hopping is primarily useful in "battle zones" where
> too many transmitters are competing for too little available spectrum. Like
> Metricom, they sacrifice throughput for energy per bit in an attempt to deal
> with the jungle-like urban environment and/or penetrate walls.

Yet, if I am feeding my T1 to a remote site, and I need reliability, am
I better off with a 11megabit 802.11b PtP solution or a 1.6megabit PtP frequency
hopper? I'd rather be prepared for battle even if I am not in a battle zone,
in particular if I don't need the extra speed. But before you say I am comparing
apples to oranges, I'd say that same thing as well about 802.11  (which is 2megabit)
DSSS).

I don't think it is any coincedence that CirroNet also chose frequency hopping
for their rural CPE units. Sure, they could have squezzed a little extra speed if they
went with DSSS, but by going to FH they increased reliablity considerablly. And in
the bigger picture, customer support, is a big cost. Just like I don't want to have
to keep tweaking my T1 wireless link, the WISP doesn't want to have alot of customer
support issues due to interference.

I use wireless primarly as a utility, hence something I can setup and walk away
from is attractive to me.

Maybe we just misunderstood each other's points. I think the rangelan's are fine
units, in particular if ~1megabit suites your needs.

> DSSS on the 900 MHz band (the band Metricom used) can easily
> do 4 Mbps. I know; I set up a link that uses it last month.

What unit are you using? This is one of my biggest beefs with the WISP market
these days.... almost everyone has walked away from 900mhz. It really had some
advantages at least compared to 2.4ghz.

-Jeff

---
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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 68. [ss] RE: Metricom use of 900 MHz

From: "Steve Stroh" <lists@strohpub.com>
Date: Thu, 16 Aug 2001 09:42:04 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-30311-2001.08.16-12.05.49--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Many would argue that Metricom made effective use of the public resource of
the 902-928 MHz band, and brought the benefits of wireless Internet access
to many instead of only a few.

Metricom's equipment, and usage, was legal. The presence of a Ricochet
network did not "drove everyone else off 900 MHz". Rather it's much more
correct to  say that older, less sophisticated 900 MHz equipment did not
cope well in the presence of a Ricochet network. But that's the beauty of
the Darwinian process of the Part 15 rules - the "must accept interference,
even when such interference causes undesirable operation" clause. What that
clause means, in practical terms, is that the use of 902-928 MHz (and 2.4
GHz, and other ISM / Part 15 spectrum) can EVOLVE to new and different uses.

To me, the Part 15 rules, especially that clause, mean that the best
technology wins, and if you want your operations to stay reliable, you
periodically invest in new equipment.

If the prospect of periodically investing in new generations of equipment
doesn't appeal to you, then I suggest using of licensed spectrum, where the
rules actively PREVENT such evolution that would cause "interference" to
older generations of equipment.

Thanks,

Steve

--
Steve Stroh  steve@strohpub.com  425-481-0600
Independent Technology Writer
Specializing in Broadband Wireless Internet Access
Focus on Broadband Wireless Internet Access newsletter -
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> -----Original Message-----
> From: bounce-ss-24593@lists.tapr.org
> [mailto:bounce-ss-24593@lists.tapr.org]On Behalf Of Brett Glass
> Sent: Wednesday, August 15, 2001 17:48
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: Rangelan's on EBAY, was re: Ricochet units

<snip>

> Without the interference, it probably would have gone farther. This isn't
> to say that someone couldn't take you down by deploying a huge
> swarm of hoppers,
> all operating at the legal limit, directly in your path. (This is what
> Metricom did, and it drove everyone else off 900 MHz in the cities where
> they deployed. They essentially took over a public resource.)
>
> --Brett
>


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## 69. [ss] RE: Metricom use of 900 MHz

From: Brett Glass <brett@lariat.org>
Date: Thu, 16 Aug 2001 12:05:47 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-30331-2001.08.16-13.28.43--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 10:42 AM 8/16/2001, Steve Stroh wrote:

>Many would argue that Metricom made effective use of the public resource of
>the 902-928 MHz band,

You and Dewayne are the only two, as best I can tell -- and this seems
to be primarily due to an Ayn Randian "might makes right, and to Hell
with what's best for the people" philosophy.

Those of us who have attempted to use that band for other purposes in
the presence of Metricom equipment have recognized the company's
activities for what they are: a land grab.

>and brought the benefits of wireless Internet access
>to many instead of only a few.

They trashed a whole band in a large number of cities for the benefit
of only 51,000 subscribers nationwide. Hardly a win in my book.

>Metricom's equipment, and usage, was legal.

They exploited a loophole in the FCC's poorly drawn policies. These
policies have also created a spectrum "drought" that has prevented the
deployment of many useful services.

Here in Laramie, we would have lost our community network -- including
service to some of the schools -- had Metricom deployed its equipment.

Local hams turned out to be our heroes. They threatened to start using
the same frequencies in (legal!) ways that would jam the Metricom
network before Metricom and Northern Gas agreed to do anything to
alleviate the damage they were about to cause in our community. The
City Council likewise recognized the need to prevent two large,
out-of-state corporations from trampling local institutions.

>The presence of a Ricochet
>network did not "drove everyone else off 900 MHz".

Yes, it did. In virtually every city where they deployed.

>Rather it's much more
>correct to  say that older, less sophisticated 900 MHz equipment did not
>cope well in the presence of a Ricochet network.

Not correct. Ricochet's equipment messed up other equipment on the band
precisely because it was crude and unsophisticated. It made poor use of
the bandwidth, getting 128 Kbps instead of the 4 Mbps we get from our
better equipment. That's because it devotes most of its energy to blasting
others off the band and penetrating walls.

> But that's the beauty of
>the Darwinian process of the Part 15 rules - the "must accept interference,
>even when such interference causes undesirable operation" clause.

One of the reasons the FCC's regulation of spectrum usage has been an
utter disaster is that it has relied upon what you call "Darwinian"
mechanisms rather than good common sense. The biggest bully in town isn't
necessarily the entity that deserves to take over a band. (Which is what
Metricom was doing.) Nor is the richest. (The FCC's spectrum auctions have
resulted in huge amounts of spectrum being tied up for anti-competitive
purposes. Our community network, for example, couldn't afford to participate
in the LMDS auctions in our area, which ended at absurd levels -- more than
$100 for every man, woman, and child in the population. But the winners have
deployed NOTHING. They bought the spectrum as a pre-emptive move to keep
everyone else out.)

>What that
>clause means, in practical terms, is that the use of 902-928 MHz (and 2.4
>GHz, and other ISM / Part 15 spectrum) can EVOLVE to new and different uses.

Not so. Remember that evolution is a fight for SURVIVAL, not efficiency.
Metricom's equipment DEVOLVED to low throughputs, which in turn killed
Metricom itself because it could not compete with DSL.

>To me, the Part 15 rules, especially that clause, mean that the best
>technology wins,

Wrong. They're set up so that BRUTE FORCE wins.

>and if you want your operations to stay reliable, you
>periodically invest in new equipment.

Again, not so. If I wanted to take Metricom's strategy to an extreme,
and "win" your so-called "Darwinian" battle, I would have to invest in
equipment that was still slower but caused maximum interference to
other systems. 19.2 Kbps, anyone?

>If the prospect of periodically investing in new generations of equipment
>doesn't appeal to you,

We routinely do that. But again, Metricom was not a "new generation" of
equipment but rather clumsy, crude, and inefficient. Just as a tank is
not good civilian transportation, a radio system that puts most of its
effort into trashing others on the same band is not necessarily
a good form of communication.

>then I suggest using of licensed spectrum, where the
>rules actively PREVENT such evolution

Again, it's "devolution." In any event, I have advocated from the start that
Metricom use licensed spectrum if it wants to monopolize the band it uses.

But our small community network, which does not monopolize the spectrum and
cannot be expected to pay the millions of dollars that the FCC's ham-handed,
"Darwinian" management of spectrum would require, should be able to use the
public spectrum in a socially responsible and considerate way. As we do now.
With more sophisticated equipment than Metricom ever had.

--Brett Glass

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## 70. [ss] RE: Metricom use of 900 MHz

From: Jeff King <jeff@aerodata.net>
Date: Thu, 16 Aug 2001 15:08:01 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-30345-2001.08.16-14.28.44--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Brett Glass wrote:

> At 10:42 AM 8/16/2001, Steve Stroh wrote:

> >Many would argue that Metricom made effective use of the public resource of
> >the 902-928 MHz band,

> You and Dewayne are the only two, as best I can tell -- and this seems
> to be primarily due to an Ayn Randian "might makes right, and to Hell
> with what's best for the people" philosophy.

Add me to that list also. Ayn Rand is one of my favorite author's.

> Those of us who have attempted to use that band for other purposes in
> the presence of Metricom equipment have recognized the company's
> activities for what they are: a land grab.

Maybe, but you do realize that the ARRL and Metricom were in league together
to prevent liberalization of the amateur spread spectrum rules, don't you?

> Here in Laramie, we would have lost our community network -- including
> service to some of the schools --

These were 900mhz Wavelan DSSS units, correct? These where the same units
in another thread you were telling me I didn't know what I was doing with
when I couldn't get a 1/4 mile link with them.... and this was long before
Metricom deployed in Detroit. The older wavelan DSSS units are very susceptible
to inband interference, and coupled with the fact they don't have a MAC layer,
made them unreliable. However, a FH unit, at the same sites, performed flawlessly.

> Local hams turned out to be our heroes. They threatened to start using
> the same frequencies in (legal!) ways that would jam the Metricom
> network

If their intent was to jam the Metricom network, then they should loose
their licenses and I suspect a case could be made before the FCC. Don't
care what the rules say, if that was their sole intent, they don't deserve
to hold a license. Now, if there legitimate operations where affected by
Metricom, then yes, Metricom should cease operations just like the much
smaller Darwin networks had to in Dallas around the first of the year. They
were interfering with 2.4ghz Amateur TV and the ARRL was somehow involved here.
It was in the ARRL letter which you can find on their web site.

> >The presence of a Ricochet
> >network did not "drove everyone else off 900 MHz".
>
> Yes, it did. In virtually every city where they deployed.

I didn't notice any ill effects here in detroit, although there is very
little to no amateur activity on 900mhz. Freewaves still worked good.

> >Rather it's much more
> >correct to  say that older, less sophisticated 900 MHz equipment did not
> >cope well in the presence of a Ricochet network.

Like 900mhz ISA Wavelan DSSS cards with no MAC layer? ;-)

> Our community network, for example, couldn't afford to participate
> in the LMDS auctions in our area, which ended at absurd levels -- more than
> $100 for every man, woman, and child in the population. But the winners have
> deployed NOTHING. They bought the spectrum as a pre-emptive move to keep
> everyone else out.)

This is a topic of a whole other thread. I understand one of the big issues
is the FCC is allowing installment payments and some of these squatters are
going out of business.... don't remember the name of the company, but I read
in the WSJ that one of the spectrum auction winners went out of business, defaulted
on their payments to the FCC, then the FCC reauctioned their segment. The creditors
then promptly sued the FCC saying it was a asset and they won. I'm in complete
agreement here, but if your going to give away free spectrum, what other way to
manage it is there other then a Darwian process?

> >What that
> >clause means, in practical terms, is that the use of 902-928 MHz (and 2.4
> >GHz, and other ISM / Part 15 spectrum) can EVOLVE to new and different uses.
>
> Not so. Remember that evolution is a fight for SURVIVAL, not efficiency.
> Metricom's equipment DEVOLVED to low throughputs, which in turn killed
> Metricom itself because it could not compete with DSL.

It was never Metricom's goal to compete with DSL. It was mobile connectivity.
The one point you are missing here is the complete free for all on the ISM
bands..... FCC allows hams, narrowband emitters, DSSS and FH all on the same
band. This is a recipe for a disaster, or as you put it survival of the
fittest. DSSS just can't be very effective in a mixed environment like that at
low process gains. This is not Metricom's fault.

> >then I suggest using of licensed spectrum, where the
> >rules actively PREVENT such evolution

And this is exactly what the Quallcom people did to get a environment where
CDMA/DSSS could operate effectively by keeping narrowband emitters out of it.
Yet the part 15 bands are a mixed environment and as such, any cooperation is
out of the question, and if you check the rules, technical illegal. It clearly
is a case of the survival of the fittest.

-Jeff

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## 71. [ss] Re: Rangelan's on EBAY, was re: Ricochet units

From: Brett Glass <brett@lariat.org>
Date: Thu, 16 Aug 2001 15:06:58 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-30366-2001.08.16-16.30.03--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 10:16 PM 8/15/2001, Jeff King wrote:

>Sorry, by real world I mean how things really are, as opposed to how we wish
>they were.

In that case, you appear to wish that the whole world was an urban RF
jungle, with Metricom attempting to take over entire public bands for
its own private use. Sorry, but fortunately most of the world is not
that way.

>When someone is paying you to perform a service for them or you are
>putting up a mission critical link, it is important to grasp this concept.

In that case, I would recommend that you grasp and apply it yourself.

>I am moving to a rural area now.... biggest town in the county is 8000 people and
>I'm in the middle of the cows and the fields. Yet look at what I said in
>the prior message:
>
>>> Most DSSS units on the market are more sensitive then FH units. However, I said
>>> was better suited for long range links, not work better occasionally. FH degrades
>>> much more gracefully in the presence of narrowband interferers then DSSS does.

Not true. Until and unless the narrowband interference becomes approximately 10
times more intense than your own signal -- and that includes antenna directionality,
polarization, and gain -- DSSS does not degrade AT ALL. That's not only more
graceful, it's far superior and much more reliable. There's noise margin
to spare, even in some of the older schemes such as the original Aironet and
NCR WaveLAN. We have even done well in the presence of some hoppers, such as
two Breezecom links. But when Metricom deploys a swarm of hundreds of coordinated

hoppers, all operating in the same band, the aggregate field strength will
take anything else down regardless of modulation scheme. While their system
consists of multiple radios, it is coordinated and therefore should be considered
to be one emitter. And, hence, in violation of FCC rules unless it operates
on private spectrum.

--Brett Glass

---
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## 72. [ss] Re: Rangelan's on EBAY

From: Jeff King <jeff@aerodata.net>
Date: Thu, 16 Aug 2001 18:19:04 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-30376-2001.08.16-17.39.47--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Brett Glass wrote:
>
> At 10:16 PM 8/15/2001, Jeff King wrote:
>
> >Sorry, by real world I mean how things really are, as opposed to how we wish
> >they were.
>
> In that case, you appear to wish that the whole world was an urban RF
> jungle, with Metricom attempting to take over entire public bands for
> its own private use. Sorry, but fortunately most of the world is not
> that way.

This new thread had nothing to do with Metricom.... none-the-less, they are part
of the real world, or should I say were. I think your hatred of Metricom
and those that don't think they are the spawn of satan, is warping your judgment.
I had concerns about Metricom, but I never started to foam at the mouth about
it.

Anyways, your making alot of assumptions that are not true. The whole world is
not a urban area, yet Farmer Jones in a rural area can fire up his FH cordless
phone 500 feet from your 10 mile DSSS link. So if your saying the noise floor
in a rural area is far less then a urban area, yes I agree with you. But if
your saying intense narrow band emitters cannot appear in a rural area, you are
mistaken. With only 10-14db of processing gain in most DSSS solutions and a
22mhz wide target, this just makes me too nervous.

Tell you what, I'll compromise with you here..... go look at that list of links
I posted yesterday, and when you finish arguing with everyone on the list ,
I'd be happy to start it up with you again. But I think you will be gone for a while.

> >>> Most DSSS units on the market are more sensitive then FH units. However, I said
> >>> was better suited for long range links, not work better occasionally. FH degrades
> >>> much more gracefully in the presence of narrowband interferers then DSSS does.
>
> Not true. Until and unless the narrowband interference becomes approximately 10
> times more intense than your own signal -- and that includes antenna directionality,
> polarization, and gain -- DSSS does not degrade AT ALL.

I don't dispute that at all. Yet your target is 22mhz wide, and only one signal in
that window has to be 10-15db stronger to take you out. Farmer Jones 500mw FH cordless
phone 500 feet away from your POP could take down your entire network.

> That's not only more
> graceful, it's far superior and much more reliable. There's noise margin

By real world, I mean the reality of the Part 15 bands, with mixed uncoordinated
signals.

> But when Metricom deploys a swarm of hundreds of coordinated
> hoppers, all operating in the same band, the aggregate field strength will
> take anything else down regardless of modulation scheme.

Yet, Metricom was "real world" for like 30%-40% of the U.S. population. It was
real world for me as well. Yet my 900 mhz hoppers still worked when the network was
up. My DSSS units, side by side with FH, where quite unreliable and unpredictable
in the tests I ran in both Detroit and Ann Arbor over the last 6 years. Again,
I don't disagree with your statement that DSSS with power control is a better
way to go from a perspective of sensitivity and frequency reuse.... no doubt
this is one reason Qualcomm went with them. Yet Qualcomm (or their licenses) were

able to license the frequencies and demand that only cooperative DSSS signals
share them. This is a far cry from the real world mad house that the Part 15 ISM band is.

> While their system
> consists of multiple radios, it is coordinated and therefore should be considered
> to be one emitter. And, hence, in violation of FCC rules unless it operates
> on private spectrum.

Then why didn't you report them to the FCC? Seems to me it would have taken you
less effort then getting all the hams in Laramie to threaten to jam the Metricom
network.

But I'm silly like that.

-Jeff

---
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## 73. [ss] Re: Rangelan's on EBAY

From: Brett Glass <brett@lariat.org>
Date: Thu, 16 Aug 2001 17:13:53 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-30389-2001.08.16-18.36.58--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 04:19 PM 8/16/2001, Jeff King wrote:

>This new thread had nothing to do with Metricom.... none-the-less, they are part
>of the real world, or should I say were.

They were predators that were allowed to wreak havoc in many cities, and
should not have been.

>I think your hatred of Metricom

I do not "hate" Metricom. (Your claims that I do appear to be an attempt
to argue ad hominem.) However, it is my conviction that they acted
unethically to destroy a public commons, and that this behavior is not
(or, if you buy their claims that they're exploiting a loophole, certainly
should not be) legal. I am all for services like Metricom's, so long as
they do not destroy the precious few Part 15 bands for other users. Paul
Allen's billions can easily buy spectrum that no one else can afford.
If he wants to take over a band, he should pay for it.

>and those that don't think they are the spawn of satan, is warping your judgment.

See above. Again, your remarks about the "spawn of Satan" are disingenuous.

>I had concerns about Metricom, but I never started to foam at the mouth about
>it.

Nor did I.

>Anyways, your making alot of assumptions that are not true. The whole world is
>not a urban area, yet Farmer Jones in a rural area can fire up his FH cordless
>phone 500 feet from your 10 mile DSSS link.

And if your link is properly engineered, he won't interfere at all. Certain
technical concepts such as antenna polarization, Fresnel zones, process gain,
and EIRP come into play here.

There are many such devices in the paths of links I've set up, and the ONLY
noticeable interference we've ever had is from Metricom equipment. Which
takes down hoppers, too; it blankets the band with huge amounts of energy
and turns up the volume when it detects an intruder on its "turf." Again,
nasty and predatory.

>Yet, Metricom was "real world" for like 30%-40% of the U.S. population.

They would have liked to cover that much of the population, but didn't
make it before they went under.

>It was
>real world for me as well. Yet my 900 mhz hoppers still worked when the network was
>up. My DSSS units, side by side with FH, where quite unreliable and unpredictable
>in the tests I ran in both Detroit and Ann Arbor over the last 6 years.

Sounds as if your own hoppers were interfering with your DSSS units. Or perhaps
you did not engineer well.

>Again,
>I don't disagree with your statement that DSSS with power control is a better
>way to go from a perspective of sensitivity and frequency reuse.... no doubt
>this is one reason Qualcomm went with them. Yet Qualcomm (or their licenses) were
>able to license the frequencies and demand that only cooperative DSSS signals
>share them. This is a far cry from the real world mad house that the Part 15 ISM band is.

Part 15 is not necessarily a madhouse. It's a commons. Anyone who attempts to
bring in a herd of cattle that drives everyone else from the commons should
be forcibly removed; the commons is for everyone's use.

>> While their system
>> consists of multiple radios, it is coordinated and therefore should be considered
>> to be one emitter. And, hence, in violation of FCC rules unless it operates
>> on private spectrum.
>
>Then why didn't you report them to the FCC? Seems to me it would have taken you
>less effort then getting all the hams in Laramie to threaten to jam the Metricom
>network.

We were preparing to file a complaint with the FCC when we reached an agreement.
A complaint certainly would have been one of our actions if they'd tried to
steamroller us.

As for the hams: They would have made perfectly legitimate use of the band,
for amateur activities such as TV. It just would have had the, uh, side
effect of jamming Metricom. Remember, hams are primary users; they don't need to
justify what they do on the band so long as it is legal activity under
Part 97.

--Brett

---
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## 74. [ss] RE: Ricochet units

From: "Steve Stroh" <lists@strohpub.com>
Date: Thu, 16 Aug 2001 16:13:34 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-30390-2001.08.16-18.37.30--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Brett:

If your statement about Metricom units "swarming" were OBJECTIVELY true (not
just what you believe, or believe you have observed), then the units would
not have been granted Part 15 Certification. But they WERE, in FACT, granted
FCC Part 15 certification, thus Ricochet units do not operate in violation
of FCC rules, regardless of how long, or how fervently you wish to believe
and proselytize your viewpoint.

Again, the OBJECTIVE truth is that Ricochet devices WERE granted Part 15
certification; and the FACT of the Part 15 certification ends the discussion
about whether they were, or were not, legal.

Thanks,

Steve

--
Steve Stroh   steve@strohpub.com  425-481-0600
Independent Technology Writer
Specializing in Broadband Wireless Internet Access
Focus on Broadband Wireless Internet Access newsletter -
http://www.strohpub.com/focus.htm

> -----Original Message-----
> From: bounce-ss-24593@lists.tapr.org
> [mailto:bounce-ss-24593@lists.tapr.org]On Behalf Of Brett Glass
> Sent: Thursday, August 16, 2001 14:07
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: Rangelan's on EBAY, was re: Ricochet units

<snip>

> But when Metricom deploys a swarm of hundreds of coordinated
> hoppers, all operating in the same band, the aggregate field strength will
> take anything else down regardless of modulation scheme. While
> their system consists of multiple radios, it is coordinated and
> therefore should be considered to be one emitter. And, hence,
> in violation of FCC rules unless
> it operates on private spectrum.
>
> --Brett Glass
>

---
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## 75. [ss] RE: Ricochet units

From: Brett Glass <brett@lariat.org>
Date: Thu, 16 Aug 2001 17:49:42 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-30397-2001.08.16-19.12.36--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 05:13 PM 8/16/2001, Steve Stroh wrote:

>Brett:
>
>If your statement about Metricom units "swarming" were OBJECTIVELY true (not
>just what you believe, or believe you have observed), then the units would
>not have been granted Part 15 Certification.

Not true. The engineers at the FCC were interested in the phenomenon and
might have pursued this if we'd filed a formal complaint.

>But they WERE, in FACT, granted
>FCC Part 15 certification,

Give me a break, Steve. You know, and I know, that Part 15 certification
is not done by the FCC itself but by third party labs who are paid by
the manufacturer of the equipment under test and therefore have a built-in
conflict of interest. The FCC does sometimes review equipment, but if it ever
reviewed Metricom's it looked at the individual radios and not at their
aggregate behavior. We saw swarming. All the Metricom units
in the area turned up the volume in the presence of any other device
on 900 MHz. What's more, while they claimed no active hopping sequence
coordination, their patents suggest that their interference avoidance
mechanism created de facto coordination.

>thus Ricochet units do not operate in violation
>of FCC rules, regardless of how long, or how fervently you wish to believe
>and proselytize your viewpoint.

Steve, do you (or did you) have an investment in Metricom? Your tirade
(which is unsupported by objective evidence such as what we've gathered)
suggests bias.

>Again, the OBJECTIVE truth is that Ricochet devices WERE granted Part 15
>certification; and the FACT of the Part 15 certification ends the discussion
>about whether they were, or were not, legal.

Sorry, Steve, but as mentioned above, that's dead wrong. There was a strong
case -- and the FCC engineers we consulted confirmed this -- for re-evaluating
their network as a single emitter, in which case they would not have been
legal. Perhaps we should have pressed the issue, but we didn't need to. We
used other means to keep Metricom from wantonly destroying our community's
resources, which is what we cared about.

--Brett Glass

---
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## 76. [ss] Metricom is Dead get over it!

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Thu, 16 Aug 2001 19:57:53 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-30413-2001.08.16-20.20.35--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

This is what really bugs me about this list.  Weather or not you liked
them or what they did to the band is irrelevant.  They are history.
Now is the time to get some ham stuff up on 900 MHz, before the next
Part 15 enterprise shows up.  I've heard it 100 times before;"the band
is trashed by Part 15, so that's why I haven't bothered with the band."
Well now it's untrashed or should be somewhat.  What will every hams
excuse be now.  I'm getting tired of all the bickering on this list and
all the people spewing equations and saying it can't be done.  Have you
tried it?  Don't just talk about it, do it and document it so everyone
else can learn from it.  One more thing that just bugs the heck out of
me besides the idiotic flaming, is the stupid idea that we hams should
all adopt some sort of wireless standard, FHSS, DSSS, 802.11, ect. Use
what works for you in your area.  Don't wait for a group purchase it
will probably never happen, and forget about adapting the Metricom
units, unless your gonna do it yourself.

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## 77. [ss] RE: Metricom is Dead get over it!

From: "Steve Stroh" <lists@strohpub.com>
Date: Thu, 16 Aug 2001 18:31:35 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-30417-2001.08.16-20.55.24--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Metricom is out of business.

The Ricochet networks are shut down... for now. It's not a given that they
won't be resurrected by another party. It will take another few days for the
results of the "auction" begun on Thursday to become known.

I think the discussions, particularly the DSSS vs FHSS were valid for this
forum.

Thanks,

Steve

--
Steve Stroh   steve@strohpub.com  425-481-0600
Independent Technology Writer
Specializing in Broadband Wireless Internet Access
Focus on Broadband Wireless Internet Access newsletter -
http://www.strohpub.com/focus.htm

> -----Original Message-----
> From: bounce-ss-24593@lists.tapr.org
> [mailto:bounce-ss-24593@lists.tapr.org]On Behalf Of Steve Lampereur
> Sent: Thursday, August 16, 2001 17:58
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Metricom is Dead get over it!
>
>
> This is what really bugs me about this list.  Weather or not you liked
> them or what they did to the band is irrelevant.  They are history.
> Now is the time to get some ham stuff up on 900 MHz, before the next
> Part 15 enterprise shows up.  I've heard it 100 times before;"the band
> is trashed by Part 15, so that's why I haven't bothered with the band."
> Well now it's untrashed or should be somewhat.  What will every hams
> excuse be now.  I'm getting tired of all the bickering on this list and
> all the people spewing equations and saying it can't be done.  Have you
> tried it?  Don't just talk about it, do it and document it so everyone
> else can learn from it.  One more thing that just bugs the heck out of
> me besides the idiotic flaming, is the stupid idea that we hams should
> all adopt some sort of wireless standard, FHSS, DSSS, 802.11, ect. Use
> what works for you in your area.  Don't wait for a group purchase it
> will probably never happen, and forget about adapting the Metricom

> units, unless your gonna do it yourself.
>
>
> ---
> You are currently subscribed to ss as: lists@strohpub.com
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>


---
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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 78. [ss] RE: Metricom is Dead get over it!

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Thu, 16 Aug 2001 21:01:54 -0500 (CDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-30422-2001.08.16-21.24.35--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>I think the discussions, particularly the DSSS vs FHSS were valid for
>this forum.

I agree they are too, they are just that.. "discussions" though.  Highly
doubt anyone was inspired by them to go physically experiment or set
anything up.  So ask your self what is point of the conversation, if there
are no physical results.  Food for thought...


---
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## 79. [ss] RE: Metricom is Dead get over it!

From: Jeff King <jeff@aerodata.net>
Date: Thu, 16 Aug 2001 22:23:02 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-30432-2001.08.16-21.43.50--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve Lampereur wrote:
>
> >I think the discussions, particularly the DSSS vs FHSS were valid for
> >this forum.
>
> I agree they are too, they are just that.. "discussions" though.

I suggest you read them again then. They were disscussions of physical
findings, and even though I may have disagreed with Brett, I have no
doubt he has done alot with spread spectrum as have I.

> Highly
> doubt anyone was inspired by them to go physically experiment or set
> anything up.

Can't say anyone was inspired nor was that my specific goal. Can I ask
what are you trying to inspire here?


-Jeff

---
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## 80. [ss] Re: Metricom is Dead get over it!

From: Brett Glass <brett@lariat.org>
Date: Thu, 16 Aug 2001 20:31:50 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-30434-2001.08.16-21.54.48--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 06:57 PM 8/16/2001, Steve Lampereur wrote:

>This is what really bugs me about this list.  Weather or not you liked
>them or what they did to the band is irrelevant.  They are history.

Maybe, maybe not. Their auction today (at which they turned away
more than a dozen bidders whom they refused to allow to register!)
apparently had a winner.

>Now is the time to get some ham stuff up on 900 MHz, before the next
>Part 15 enterprise shows up.

The demise of Metricom doesn't present any special opportunity for
amateur radio operators. Hams aren't, er, hamstrung by a measly 1
watt power limit, so they can outshout anyone -- including
Metricom. And they're primary users, so the presence of Part 15
activity doesn't prevent them from using the band.

They shouldn't dominate the band just for spite, though. That would
be as bad as what Metricom was doing.

--Brett

---
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## 81. [ss] RE: Metricom is Dead get over it!

From: Brett Glass <brett@lariat.org>
Date: Thu, 16 Aug 2001 20:32:38 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-30435-2001.08.16-21.55.47--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 08:01 PM 8/16/2001, Steve Lampereur wrote:

>>I think the discussions, particularly the DSSS vs FHSS were valid for
>>this forum.
>
>I agree they are too, they are just that.. "discussions" though.  Highly
>doubt anyone was inspired by them to go physically experiment or set
>anything up.

Not true. See http://www.lariat.org/metricom.html

--Brett

---
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## 82. [ss] RE: Metricom is Dead get over it!

From: Brett Glass <brett@lariat.org>
Date: Thu, 16 Aug 2001 20:33:48 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-30436-2001.08.16-21.57.18--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 07:31 PM 8/16/2001, Steve Stroh wrote:

>Metricom is out of business.
>
>The Ricochet networks are shut down... for now.

Not true. Their WAPs and poletop units are still chattering away; I've
personally verified this. They just won't let end users connect.

--Brett

---
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## 83. [ss] Re: Rangelan's on EBAY

From: "Graeme Zimmer" <gzimmer@bigpond.com>
Date: Fri, 17 Aug 2001 17:46:19 +1000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>

Message-ID: <LYR6751-30476-2001.08.17-03.03.34--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Yet my 900 mhz hoppers still worked when the network was
> up. My DSSS units, side by side with FH, where quite unreliable and
unpredictable

It was a couple of years ago, and my memory is getting hazy, but my
experience was quite the reverse.

We had been using early Lucent FH gear with fair success, but then changed
to the more recent
DSSS product and were absolutely amazed at the improved range and
immunitity.

With DSSS units we were able to achieve solid links over paths which were
quite impossible with FHers.

One comment I would make is that many of the competing DSSS products are
pretty Micky-Mouse.
With only a few bits A/D and short PN sequences it is no suprise that they
have little processing gain and poor immunity.
They have the simplest ASIC design possible and are designed for short range
use only.

A well engineered DSSS system should compete favorably with any FH system.
Consider the astounding results achieved with modern GPS........

..... Zim ..... VK3GJZ

---
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## 84. [ss] Re: Rangelan's on EBAY

From: "Jeff King" <transit_man@hotmail.com>
Date: Fri, 17 Aug 2001 14:44:13 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-30524-2001.08.17-10.07.07--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

"Graeme Zimmer" <gzimmer@bigpond.com> wrote:

>Jeff King wrote:

> > Yet my 900 mhz hoppers still worked when the network was
> > up. My DSSS units, side by side with FH, where quite unreliable and
>unpredictable
>
>It was a couple of years ago, and my memory is getting hazy, but my
>experience was quite the reverse.
>
>We had been using early Lucent FH gear with fair success, but then changed
>to the more recent
>DSSS product and were absolutely amazed at the improved range and
>immunitity.

I was comparing circa 1995 DSSS product to circa 1995 frequency hopping
product. The 1995 DSSS product was the same one Brent used as well in
Larimie that Metricom would have taken out. A Lucent 900mhz wavelan.

What recent DSSS product are you using?

>One comment I would make is that many of the competing DSSS products are
>pretty Micky-Mouse.
>With only a few bits A/D and short PN sequences it is no suprise that they
>have little processing gain and poor immunity.

Yet this defines the majority of DSSS product on the market.... or should
I say one that falls within a hobbist's budget. Remember, this thread
started with someone posting a link to  $39-$199 frequency hopping
units and then another individial critizing these units. I simply
suggested these units had a valuable place in the reality of the
part 15 bands. And I should add; not theory, calulations or arm
chair smoking, but from someone who has done alot of spread
spectrum work, including work with these very same units.

>A well engineered DSSS system should compete favorably with any FH system.

Yes. How much does this cost and what are the test conditions?

>Consider the astounding results achieved with modern GPS........

Doesn't GPS DSSS have a process gain of ~40db and have an exclusive band dedicated to it? Where as the typical DSSS we are talking about typically has
a processing gain of 11db and shares the band with other narrowband emitters.

-Jeff

_____
Get your FREE download of MSN Explorer at http://explorer.msn.com/intl.asp

---
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## 85. [ss] RE: Ricochet units

From: "Steve Stroh" <lists@strohpub.com>
Date: Fri, 17 Aug 2001 07:46:58 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-30525-2001.08.17-10.11.01--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Brett:

The fact remains that Metricom has Part 15 certification, which entitles it to operate its system.

That you, personally, think that their Part 15 certification isn't valid due to "behavior" that you've observed isn't all that relevant until it's progressed into at least an informal complaint to the FCC. That a person at the FCC expressed interest in your observations also isn't that relevant; of COURSE they're going to say that! What member of a regulatory body would risk saying "Go Away"?

For the record, I have no personal interest in Metricom other than I'm a (now) former customer and I admire the Ricochet system.

Perhaps there were "clean sheet of paper" improvements that could have been made, but making use of the ISM bands and having the potential to deal with numerous other uses of the spectrum, including NUMEROUS other networks, I think that they made the right technology tradeoffs.

I don't consider your observations valid about the "harm" of a Ricochet system, other than the fact that you're trying to continue to operate older equipment that can't cope with a band that has steadily more congested as more and more wireless devices are use are put into use. A Ricochet system has been operating in the Seattle area for many years (the second major installation after SF Bay area), as well as a partially operational Ricochet II system. There are numerous ISM Internet systems in operation in the Seattle area.

This will be my last post regarding your "politics" about Ricochet.

Thanks,

Steve

--
Steve Stroh  steve@strohpub.com  425-481-0600
Independent Technology Writer
Specializing in Broadband Wireless Internet Access
Focus on Broadband Wireless Internet Access newsletter -
http://www.strohpub.com/focus.htm

> -----Original Message-----
> From: bounce-ss-24593@lists.tapr.org
> [mailto:bounce-ss-24593@lists.tapr.org]On Behalf Of Brett Glass
> Sent: Thursday, August 16, 2001 16:50
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] RE: Ricochet units

> 
> 
> At 05:13 PM 8/16/2001, Steve Stroh wrote:
> 
> 
> >Brett:
> >
> >If your statement about Metricom units "swarming" were
> OBJECTIVELY true (not
> >just what you believe, or believe you have observed), then the
> units would
> >not have been granted Part 15 Certification.
> 
> Not true. The engineers at the FCC were interested in the phenomenon and
> might have pursued this if we'd filed a formal complaint.
> 
> >But they WERE, in FACT, granted
> >FCC Part 15 certification,
> 
> Give me a break, Steve. You know, and I know, that Part 15 certification
> is not done by the FCC itself but by third party labs who are paid by
> the manufacturer of the equipment under test and therefore have a built-in
> conflict of interest. The FCC does sometimes review equipment,
> but if it ever
> reviewed Metricom's it looked at the individual radios and not at their
> aggregate behavior. We saw swarming. All the Metricom units
> in the area turned up the volume in the presence of any other device
> on 900 MHz. What's more, while they claimed no active hopping sequence
> coordination, their patents suggest that their interference avoidance
> mechanism created de facto coordination.
> 
> >thus Ricochet units do not operate in violation
> >of FCC rules, regardless of how long, or how fervently you wish
> to believe
> >and proselytize your viewpoint.
> 
> Steve, do you (or did you) have an investment in Metricom? Your tirade
> (which is unsupported by objective evidence such as what we've gathered)
> suggests bias.
> 
> >Again, the OBJECTIVE truth is that Ricochet devices WERE granted Part 15
> >certification; and the FACT of the Part 15 certification ends
> the discussion
> >about whether they were, or were not, legal.
> 
> Sorry, Steve, but as mentioned above, that's dead wrong. There
> was a strong
> case -- and the FCC engineers we consulted confirmed this -- for
> re-evaluating
> their network as a single emitter, in which case they would not have been
> legal. Perhaps we should have pressed the issue, but we didn't need to. We
> used other means to keep Metricom from wantonly destroying our community's
> resources, which is what we cared about.
> 
> --Brett Glass
> 
> 
> ---
> You are currently subscribed to ss as: lists@strohpub.com
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> 
> 


---
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## 86. [ss] Re: Rangelan's on EBAY

From: Howard Goldstein <hg@penny.n2wx.ampr.org>
Date: Fri, 17 Aug 2001 10:56:14 -0400 (EDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-30526-2001.08.17-10.19.01--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Jeff King writes:
 > Doesn't GPS DSSS have a process gain of ~40db

A 50db+ number sticks out in my mind, as does a 50bps data rate,

all in a zaftig 9mhz package

---
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## 87. [ss] Re: Rangelan's on EBAY

From: "Jeff King" <transit_man@hotmail.com>
Date: Fri, 17 Aug 2001 15:23:18 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-30531-2001.08.17-10.46.05--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hey Howie:

This is the same Howie that wrote the TNC2 firmware? If so,
nice to see you here (and even if not, still nice to see
you here!)

Howard Goldstein <hg@penny.n2wx.ampr.org> wrote:

>Jeff King writes:
>  > Doesn't GPS DSSS have a process gain of ~40db
>
>A 50db+ number sticks out in my mind, as does a 50bps data rate,
>all in a zaftig 9mhz package

I knew it was either 40 or 50, but I thought the 50 was on the
military channel and the 40 on the civilian? In any case, the
processing gain is significant.

73

Jeff

_____
Get your FREE download of MSN Explorer at http://explorer.msn.com/intl.asp

---
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## 88. [ss] Metricom Auction

From: s.monsey@att.net
Date: Fri, 17 Aug 2001 16:30:54 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-30561-2001.08.17-11.53.48--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

According to Cnet, the Metricom auction took about 3
hours. They won't anounce the results till Monday. 3
hours...hummm...any speculation?

Steve N0FPF

http://news.cnet.com/news/0-1004-200-6896369.html?tag=mn_
hd

---
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## 89. [ss] RE: Ricochet units

From: Brett Glass <brett@lariat.org>
Date: Fri, 17 Aug 2001 10:32:25 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-30563-2001.08.17-11.55.34--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 08:46 AM 8/17/2001, Steve Stroh wrote:

>Brett:
>

>The fact remains that Metricom has Part 15 certification, which entitles it
>to operate its system.

Again, Steve, you're being bombastic. Metricom's units have been said by
a test lab to meet the requirements of Part 15, but it is not at all
clear that they'd stand up to closer scrutiny by the FCC.

>That you, personally, think that their Part 15 certification isn't valid due
>to "behavior" that you've observed isn't all that relevant until it's
>progressed into at least an informal complaint to the FCC.

The fact that we haven't hired lawyers and pressed the issue with the FCC
does not mean that our observations and tests are not correct or relevant.

>That a person at
>the FCC expressed interest in your observations also isn't that relevant; of
>COURSE they're going to say that! What member of a regulatory body would
>risk saying "Go Away"?

Most regulatory bodies do that on a regular basis.

>For the record, I have no personal interest in Metricom other than I'm a
>(now) former customer and I admire the Ricochet system.

Your admiration is misplaced. It's a hack.

>Perhaps there were "clean sheet of paper" improvements that could have been
>made, but making use of the ISM bands

Which they should not have done...

>and having the potential to deal with

I think you mean, "take down"

>numerous other uses of the spectrum, including NUMEROUS other networks, I
>think that they made the right technology tradeoffs.

No, they made the wrong ones. There is not a sufficient number of
committed mobile users to sustain such a network. They needed to
serve home users, and could not compete with DSL because their
technology was aimed at blasting others off the band rather than
providing competitive bandwidth.

>I don't consider your observations valid about the "harm" of a Ricochet
>system, other than the fact that you're trying to continue to operate older
>equipment

Even after 6 years, it's proven to be an inspired design -- and is far
superior technologically to Metricom's equipment. That's why we can get
4 Mbps out of it when Ricochet limps along at one sixteenth of that
data rate AND a fraction of the range.

>that can't cope with a band that has steadily more congested as
>more and more wireless devices are use are put into use.

It copes with that congestion wonderfully, unless faced by a virtual
army of emitters which is designed to take it down and does not play
by the rules set for that band. The fact that Ricochet interferes
destructively with it does not mean that it "can't cope." One can take
down ANY radio technology, no matter how sophisticated, with a
sufficient number of transmitters.

>A Ricochet system
>has been operating in the Seattle area for many years (the second major
>installation after SF Bay area), as well as a partially operational Ricochet
>II system. There are numerous ISM Internet systems in operation in the
>Seattle area.

On other bands, such as 2.4 GHz.

>This will be my last post regarding your "politics" about Ricochet.

If you consider a request for conformance to the FCC regulations, or for
responsible and nondestructive use of a public resource, to be "politics,"
so be it. Metricom has exercised neither good sense, good manners, nor
good citizenship -- which appears to be why it failed. We'll see what
its successor does.

--Brett Glass

---
You are currently subscribed to ss as: lyris.ss@tapr.org
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## 90. [ss] Re: Metricom Auction

From: Brett Glass <brett@lariat.org>
Date: Fri, 17 Aug 2001 10:33:37 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-30564-2001.08.17-11.56.47--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 10:30 AM 8/17/2001, s.monsey@att.net wrote:

>According to Cnet, the Metricom auction took about 3
>hours. They won't anounce the results till Monday. 3
>hours...hummm...any speculation?

My guess: Verizon or Worldcom bought it and will either
kill it or take all marketing, etc. in house.

--Brett

---
You are currently subscribed to ss as: lyris.ss@tapr.org
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## 91. [ss] Re: Rangelan's on EBAY

From: Howard Goldstein <hg@penny.n2wx.ampr.org>
Date: Fri, 17 Aug 2001 12:37:35 -0400 (EDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-30565-2001.08.17-12.01.00--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Jeff King writes:
 > Hey Howie:
 >
 > This is the same Howie that wrote the TNC2 firmware? If so,
 > nice to see you here (and even if not, still nice to see
 > you here!)
 >

Hi Jeff, yes you pinned me out.  Thanks for your kind words.  It's
nice to be here amongst old friends, and new ones.

 > Howard Goldstein <hg@penny.n2wx.ampr.org> wrote:
 >
 >
 > >Jeff King writes:
 > >  > Doesn't GPS DSSS have a process gain of ~40db
 > >
 > >A 50db+ number sticks out in my mind, as does a 50bps data rate,
 > >all in a zaftig 9mhz package
 >
 > I knew it was either 40 or 50, but I thought the 50 was on the
 > military channel and the 40 on the civilian?

You're far more correct than I (what I get for relying on memory?)
Not having access to the P code I can't ever see the numbers I cited.

 > In any case, the
 > processing gain is significant.

Agreed.  And as you noted, it's at a tremendous price, huge amounts of
protected spectrum we can't expect to get in this world and probably
won't ever find in the ham bands.

Having also put these to use in the real world my experience with ds
vs fh probably mirrors yours'.  I really like the freewaves for single
hops and used them extensively in a previous job.  The networking side
(what passes for it) could sure stand quite a bit of improvement.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 92. [ss] Re: Correction, Re: Ricochet units

From: Brett Glass <brett@lariat.org>
Date: Fri, 17 Aug 2001 12:02:02 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-30589-2001.08.17-13.25.00--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I wrote:

>Even after 6 years, [WaveLAN has]proven to be an inspired design -- and is far
>superior technologically to Metricom's equipment. That's why we can get
>4 Mbps out of it when Ricochet limps along at one sixteenth of that
>data rate AND a fraction of the range.

I miscalculated here. Actually, Ricochet gets one thirty-second of the data
rate.

--Brett

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 93. [ss] Re: Metricom Auction

From: "Jeff King" <transit_man@hotmail.com>
Date: Fri, 17 Aug 2001 19:24:25 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-30595-2001.08.17-14.47.13--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

s.monsey@att.net wrote:

>According to Cnet, the Metricom auction took about 3
>hours. They won't anounce the results till Monday. 3
>hours...hummm...any speculation?

The following attachments are from the Motley Fool message
board (a stock trading board). Two of the people tried to
attend the auction. I would have posted the links except
you need to register to see them. If anyone wants to debate
these guys, they will need to go to the motley fool board to
do it (www.fool.com).

Anyways, these are nothing more them rumors.

-Jeff

---

The Motley Fool Discussion Boards
Subject: Re: auction results
Date: 8/16/2001 5:35:43 PM
Number: 11572
Author: ThornyStick
URL: http://boards.fool.com/Message.asp?mid=15579028

I showed up at the Metricom offices shortly after 10 this morning and left
at about noon (PST).
They were not letting _anyone_ in other than registered bidders who had
put up a security deposit.
There weren't many other people outside, but a few of them were
press(CNET, SF Chronicle, Business Week).
Not even they were let in (even after offering to post the security).
I didn't see everyone who went in, but reports from others there who saw
everyone go in put the number of people upstairs at the auction at 25 or
30.
I did speak briefly with a man who said he represented an investment group
that was interested in a single GSA, but he left (and was back outside)
before the auction even started. His feeling was that everything was too
much of a cluster f* to be worth bidding on unless you were an insider.
There was also a group in the lobby who represented the company who sold
Metricom their furniture. They were also not allowed up to the auction.
At about 11:15-30 caterers took lunch up to the auction.
I'm not sure if the guy from CNET ever convinced the caterers to give him
a lunch.

I realize that none of this is really "news", but I figured I would post

and at least let people know what little I saw.

---

The Motley Fool Discussion Boards
Subject: Re: auction results
Date: 8/16/2001 5:49:31 PM
Number: 11573
Author: blakdawg
URL: http://boards.fool.com/Message.asp?mid=15579135

I live a few miles from where the auction was held at the new Ricochet headquarters near downtown San Jose - I went over there at 10:00 this morning, didn't think I'd be able to get in (the pre-auction material said it would be for "qualified bidders only", e.g., people who put down $50K in earnest money and otherwise appeared qualified to bid), and didn't get in. I hung around until about noon, when they brought in salads and sandwiches, looking like they were settling down for a long session. There were a number of other people interested in the proceedings who were excluded - several creditors, several reporters, some small investors, and some others like me who had some level of interest in bidding but were unable or unwilling to sign up in advance as bidders.

We gossiped and kvetched about Ricochet's oddly loyal subscriber and investor base, and the failure of the management team to run the company decently, etc., but there really wasn't any information available to people not admitted as bidders. We did hear the liquidators say that they started the proceedings 1/2 hour late waiting for one participant, but it wasn't clear what his name was or who he represented.

One of the questions in my head the last few weeks has been "what did they do with all of the money they burned through?" . . but as soon as I saw their new building, the answer was clear. They spent it on space (145,000 square feet of class A office space near downtown San Jose, probably leased near the height of the dot-com mania), with stylish, artistic furnishings, etc - maybe not all of it, but if the building reflects their approach to spending, I'm no longer surprised that they're out of money.

---
The Motley Fool Discussion Boards
Subject: No Bid Accepted?
Date: 8/17/2001 2:35:36 PM
Number: 11583
Author: CliffordBuckner
URL: http://boards.fool.com/Message.asp?mid=15584778

RUMOR: From a current employee to his realative to me (a few minute ago) -------  "none of the bids were accepted".

If this is true they can now sell everything off piecemeal for very very little and/or competely destroy the company and technology.

Maybe there will a new "Pheonix" wireless company in the near future.

Cliff.

_____
Get your FREE download of MSN Explorer at http://explorer.msn.com/intl.asp

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 94. [ss] Re: Rangelan's on EBAY

From: "Graeme Zimmer" <gzimmer@bigpond.com>
Date: Fri, 17 Aug 2001 17:46:19 +1000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-30803-2001.08.20-07.49.11--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Yet my 900 mhz hoppers still worked when the network was
> up. My DSSS units, side by side with FH, where quite unreliable and
unpredictable

It was a couple of years ago, and my memory is getting hazy, but my
experience was quite the reverse.

We had been using early Lucent FH gear with fair success, but then changed
to the more recent
DSSS product and were absolutely amazed at the improved range and
immunitity.

With DSSS units we were able to achieve solid links over paths which were
quite impossible with FHers.

One comment I would make is that many of the competing DSSS products are
pretty Micky-Mouse.
With only a few bits A/D and short PN sequences it is no suprise that they
have little processing gain and poor immunity.
They have the simplest ASIC design possible and are designed for short range
use only.

A well engineered DSSS system should compete favorably with any FH system.
Consider the astounding results achieved with modern GPS........

..... Zim ..... VK3GJZ

---
You are currently subscribed to ss as: tlang@freeway.apana.org.au
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---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 95. [ss] 802.11 hacking now public

From: Bob Lorenzini <hwm@newportharbornet.com>
Date: Tue, 21 Aug 2001 15:16:08 -0700 (PDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-31254-2001.08.21-17.39.36--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

www.wired.com/news/wireless/0,1382,46187,00.html

Bob - wd6dod

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 96. [ss] IP3 Standards

From: KRD57@aol.com
Date: Wed, 22 Aug 2001 06:33:41 EDT
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-31368-2001.08.22-05.56.52--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Can anyone help me with the definition of the IP3 Standards.

As I understand IP3, it is a measure of the 3rd order intercept point of a receiver.  Selectivity is
another way of looking at IP3.  However, IP3 focusses on the rejection of unintended digital
transmissions.

Thanks

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 97. [ss] Re: IP3 Standards

From: "jeff millar" <jeff@wa1hco.mv.com>
Date: Wed, 22 Aug 2001 20:46:17 -0400

To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-31551-2001.08.22-20.10.56--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

An amplifier always has some nonlinearities that produce mixing and harmonics (intermodulation). To determine IP3 (intermodulation product, 3rd order), one plots the amplitude of the intended signal and the amplitude of the unintended mixing products on a graph as the input level is raised (input being two signals close to each other that generate intermodulation products).

A basic principle nonlinearities holds that intermod products increase more rapidly with input level than intended output level. 3rd order products have a slope of three and 5th order products have a slope of 5, etc. while the intended output has a slope of 1.

At low levels the input might be -50 dBm, the output -30 dBm (20 dB gain)and 3rd order products -90 dBm. Then increase the input 10 dB, output goes to -20, and mixing products go to -60 (slope of three). Plot this and you can predict where the two lines will cross (0 dBm). The output level at cross is the "output IP3" and input level is the input IP3. either may be specified on a component data sheet.

Note that real parts can never get to these levels, the hit total power limits first. IP3 is just a convienent way to characterize signal handling capability of parts.

Selectivity doesn't relate the IP3 except that if a filter removes a strong interferring signal, then it can't generate intermodulation products.

These specifications generally get tested with pure carriers not wideband modulated signals.

hope this helps....

jeff, wa1hco

----- Original Message -----
From: <KRD57@aol.com>
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Sent: Wednesday, August 22, 2001 6:33 AM
Subject: [ss] IP3 Standards

> Can anyone help me with the definition of the IP3 Standards.
>
> As I understand IP3, it is a measure of the 3rd order intercept point of a receiver. Selectivity is another way of looking at IP3. However, IP3 focusses on the rejection of unintended digital transmissions.
>
>
> Thanks
>
>
> ---
> You are currently subscribed to ss as: JEFF@WA1HCO.MV.COM
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 98. [ss] Interesting Gadget - D2D

From: s.monsey@att.net
Date: Thu, 23 Aug 2001 15:45:54 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-31678-2001.08.23-11.09.16--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Check this thing out. The D2D device.

http://www.d2d.com

Steve - N0FPF

---
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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 99. [ss] ve3jf

From: Glenn Wright <ss@mail1.wb7spd.ampr.org>
Date: Sun, 26 Aug 2001 01:14:19 UTC
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-32114-2001.08.25-20.41.14--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Does anyone on the list have a current address for Barry VE3JF?
Email to him at ve3jf@tapr.org and bm@hydra.carleton.ca are
returned.

--
73,
 Glenn
 wb7spd@arrl.net

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 100. [ss] Re: ve3jf

From: David Wilson <david@wwns.com>
Date: Sat, 25 Aug 2001 20:35:42 -0500 (CDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-32117-2001.08.25-20.54.23--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,

Have you tried
bm@lynx.ve3jf.ampr.org  ?

Dave

Glenn Wright wrote...
>
>    Does anyone on the list have a current address for Barry VE3JF?
> Email to him at ve3jf@tapr.org and bm@hydra.carleton.ca are
> returned.
>
> --
> 73,
>  Glenn
>  wb7spd@arrl.net
>
> ---
> You are currently subscribed to ss as: david@wwns.com
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>


--
David R. Wilson  WB4LHO
World Wide Network Services
Nashville, Tennessee USA
david@wwns.com



---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 101. [ss] Re: ve3jf

From: Jeff King <jeff@aerodata.net>
Date: Mon, 27 Aug 2001 18:48:23 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-32629-2001.08.27-18.09.38--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

David Wilson wrote:
>
> Hi,
>
> Have you tried
> bm@lynx.ve3jf.ampr.org  ?

Or

barry.mclarnon@crc.ca

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 102. [ss] 2001 ARRL/TAPR DCC September 21-23, 2001

From: "Steven Bible" <n7hpr@tapr.org>
Date: Mon, 27 Aug 2001 23:00:45 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-32727-2001.08.28-01.20.31--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

2001 ARRL/TAPR Digital Communications Conference
Cincinnati, Ohio
September 21-23, 2001

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Hurry!  Conference Room Rates end September 1st!
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

DCC Schedule Highlights:

Friday
All Day APRS Seminar

Saturday
Technical Papers and Introductory Sessions
Banquet Speaker and Prize Drawing

Sunday - 5 Hour Seminar:
"Simulating Circuits and Systems with Serenade SV"
by Dave Newkirk, W9VES

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

The 20th ARRL and TAPR Digital Communications Conference will be held
September 21-23 in Cincinnati, Ohio. The annual gathering provides an
international forum for radio amateurs involved in digital communication,
networking, and related technologies to meet, publish their work, and
present new ideas and techniques for discussion.

The DCC is for technically oriented amateurs of all experience levels to
exchange ideas and learn about recent hardware and software advances,
theories, experimental results, and practical applications.

Sessions at the beginner, intermediate, and advanced levels will be offered
in selected areas of digital communication. Topics include APRS, satellite
communication, TCP/IP, digital radio, spread spectrum and other introductory
topics. Two symposia/seminars will be held which allow those with additional
time and interest to make the most of the conference. For those who may have
interest in just one symposium or seminar, registration for the conference
is not required to attend these activities.

The DCC banquet is Saturday night. A guest speaker will speak after the
banquet and a prize drawing will top the evening. The Sunday morning seminar
topic has not yet been announced.

This year's fifth annual Automated Position Reporting System (APRS) National
Symposium will be an all-day Friday event moderated by Steve Dimse,
K4HG--the developer of javAPRS and www.findu.com. Possible attendees include
APRS software authors such as Bob Bruninga, WB4APR--the father of
APRS--Keith Sproul, WU2Z, and Mark Sproul, KB2ICI--the developers of MacAPRS
and WinAPRS--Brent Hildebrand, KH2Z--the developer of APRSPLUS, Mike Musick,
N0QBF--developer of PocketAPRS--and other nationally known APRS leaders.
This session will include in-depth discussions and presentations on the
status and future of APRS. It's a unique opportunity to gain insight into
this fast-paced aspect of digital operation that combines computers, packet
radio and GPS.

Local co-hosts for the 2001 ARRL and TAPR DCC are
Greater Cinti Amateur Radio Assn. http://w3.one.net/~rkuns/gcara.html
DIAL Radio Club http://www.qsl.net/w8blv/Miami
Valley FM Association http://www.mvfma.org/Southwest
Ohio Digital Symposium http://w3.one.net/~rkuns/swohdigi.html

Conference presentations, meetings, and seminars will be held at the Holiday Inn Cincinnati--Airport and Conference Center <http://www.basshotels.com/hotels/cvgap>; 859-371-2233. A special DCC room rate of $89/single and $89/double per night has been blocked for 50 rooms and is available until September 1. Once the 50 rooms have been reserved, room rates will increase. The hotel provides transportation to and from the Cincinnati/Northern Kentucky International Airport.

Full information, a registration form, and hotel information also may be obtained by contacting Tucson Amateur Packet Radio, 972-671-TAPR (8277); fax 972-671-8716; e-mail: tapr@tapr.org.

Conference registration includes the conference Proceedings, sessions, meetings, and lunch on Saturday. Registrations received before September 1 are $45. After September 1 or at the door, registration is $55. The banquet is $30. The APRS National Symposium on Friday is $25. The Sunday seminar is $20.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 103. [ss] Re: ss digest: August 27, 2001

From: Jim Ussailis <ussailis@equinox.shaysnet.com>
Date: Wed, 29 Aug 2001 09:58:09 -0400 (EDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: ss digest recipients <ss@lists.tapr.org>
Message-ID: <LYR6751-33050-2001.08.29-09.19.32--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Ideas...

I finally got a 900 MHz DSSS system working, except for code lock-up. My system is inexpensive as it uses SAW local oscillators in the receiver & transmitter. No requirement for a microcontroller.

I see a use for the circuit as a simple 900 MHz band HT, or packet board.

Now the problem:

I have been using a DDS board for the receiver code clock generator. With it I can change the clock speed ever so slightly until code lock occurs. Of course this condition only lasts for a short time, as the crystal in the DDS drifts a wee, causing the lock-up condition to fail. I could solve this problem with an oven controlled oscillator, but that would defete the purpose of a low cost, simple circuit.

I plan to go the other way once the lock-up problem is solved...
to a cheap code clock generater.

Has anyone developed a simple circuit that will lock the code
clock oscillator once code lock-up has been achieved?

Jim, W1EQO

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 104. [ss] RE: ss digest: August 29, 2001

From: "Dennis Tolentino" <dentino@eee.upd.edu.ph>
Date: Thu, 30 Aug 2001 14:59:52 +0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-33225-2001.08.30-02.22.19--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

suggestion:

there's a lot of cheap PLL (phase-locked loop) IC's available

8) -----Original Message-----
8) From: bounce-ss-24671@lists.tapr.org
8) [mailto:bounce-ss-24671@lists.tapr.org]On Behalf Of TAPR Spread Spectrum
8) Special Interest Group digest
8) Sent: Thursday, August 30, 2001 1:01 PM

8) To: ss digest recipients
8) Subject: ss digest: August 29, 2001
8)
8)
8) TAPR Spread Spectrum Special Interest Group Digest for
8) Wednesday, August 29, 2001.
8)
8) 1. Re: ss digest: August 27, 2001
8)
8) ------------------------------------------------------------------------
8)
8) Subject: Re: ss digest: August 27, 2001
8) From: Jim Ussailis <ussailis@equinox.shaysnet.com>
8) Date: Wed, 29 Aug 2001 09:58:09 -0400 (EDT)
8) X-Message-Number: 1
8)
8) Ideas...
8)
8) I finally got a 900 MHz DSSS system working, except for code lock-up. My
8) system is inexpensive as it uses SAW local oscillators in the receiver &
8) transmitter. No requirement for a microcontroller.
8)
8) I see a use for the circuit as a simple 900 MHz band HT, or packet board.
8)
8) Now the problem:
8)
8) I have been using a DDS board for the receiver code clock
8) generator. With
8) it I can change the clock speed ever so slightly until code lock occurs.
8) Of course this condition only lasts for a short time, as the crystal in
8) the DDS drifts a wee, causing the lock-up condition to fail. I could
8) solve this problem with an oven controlled oscillator, but that would
8) defete the purpose of a low cost, simple circuit.
8)
8) I plan to go the other way once the lock-up problem is solved...
8) to a cheap code clock generater.
8)
8) Has anyone developed a simple circuit that will lock the code
8) clock oscillator once code lock-up has been achieved?
8)
8)
8) Jim, W1EQO
8)
8)
8)
8) ---
8)
8) END OF DIGEST
8)
8) ---
8) You are currently subscribed to ss as: dentino@eee.upd.edu.ph
8) To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
8)
8)
8)


---
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## 105. [ss] Re: ss digest: August 27, 2001

From: "Marius Hauki" <marius.hauki@datarespons.no>
Date: Thu, 30 Aug 2001 09:30:03 +0200
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-33229-2001.08.30-02.53.08--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Jim,

a circuit called a synchronous oscillator could pherhaps do something like you describe.
I am not shure if you could use it with the DDS tough.
It is described in the Spread Spectrum Experimenters Handbook from ARRL.

73  de  LA9EEA
Marius

Jim Ussailis wrote:
>
> Ideas...
>
> I finally got a 900 MHz DSSS system working, except for code lock-up. My
> system is inexpensive as it uses SAW local oscillators in the receiver &
> transmitter. No requirement for a microcontroller.
>
> I see a use for the circuit as a simple 900 MHz band HT, or packet board.
>
> Now the problem:
>
> I have been using a DDS board for the receiver code clock generator. With
> it I can change the clock speed ever so slightly until code lock occurs.
> Of course this condition only lasts for a short time, as the crystal in
> the DDS drifts a wee, causing the lock-up condition to fail. I could
> solve this problem with an oven controlled oscillator, but that would
> defete the purpose of a low cost, simple circuit.
>
> I plan to go the other way once the lock-up problem is solved...
> to a cheap code clock generater.
>
> Has anyone developed a simple circuit that will lock the code
> clock oscillator once code lock-up has been achieved?
>
> Jim, W1EQO
>
> ---
> You are currently subscribed to ss as: MARIUS@DATARESPONS.NO
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

# September 2001

Original source file: ss.0109
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/ss.0109

## 1. [ss] DCC: Last chance for registration discount, and updated program info

From: John Ackermann  N8UR <jra@febo.com>
Date: Fri, 07 Sep 2001 12:50:15 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-34729-2001.09.07-12.18.15--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The early registration discount for both the hotel room rate, and the
registration fee, expires on September 10, so you only have a couple more
days to get your reservations and registration made at the lowest price.
Registrations at the normal price will be available and at the door (of
course, hotel rooms will be subject to availability).

The DCC begins on Friday, September 20 and runs through Sunday, September
22.  Full details are available at
http://www.tapr.org/tapr/html/Fdccconf.html.

A couple of updates on the program:

1.  We're very happy that Anthony R. Curtis, Ph.D, K3RXK, will be our
speaker at the DCC banquet.  Tony's presentation will be titled "40 Years
of Amateur Radio In Space: Where We've Been, Where We Are, and Where We're
Going."

2.  We've confirmed that the Packet Radio Users Group (PRUG) of Tokyo,
Japan will be sponsoring a reception and talking about their latest
activities Friday evening.  PRUG is really on the cutting edge of digital
radio, and their presentations are always fascinating.

3.  We are also fortunate to have three great activities that focus on the
hardware and soldering-iron side of amateur radio:

        *  On Saturday, Jay Craswell, W0VNE, will do an introductory program on
using
        CirCAD, a powerful schematic drawing/PCB layout program that's available
(in a
        slightly limited form) for ham use at no cost.

        *  Also on Saturday, Ten-Tec's Gary Barbour, AC4DL, will be talking about
Software
        Defined Radio development at Ten-Tec.

        *  Our "Sunday Seminar" will feature Dave Newkirk, W9VES, providing a
tutorial
        on using the Serenade SV RF design software; this is another professional
package
        with a free version available for ham use.

We hope to see you there!

John N8UR
President, TAPR
jra@febo.com -- n8ur@tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 2. [ss] Correction to DCC Post

From: "John R. Ackermann" <jra@febo.com>
Date: Sat, 08 Sep 2001 20:22:57 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: mvarbb@febo.com, tawg-list@tawg.org
Message-ID: <LYR6751-34980-2001.09.08-19.49.57--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

In a previous email I incorrectly stated that the Circad schematic drawing
and PCB layout program is available for Ham use at no cost.  I
misunderstood the relationship of the various versions.

There is a highly discounted version of the $995 Circad program available
at $295.   This $295 version is available to Licensed Ham/Amateur Radio

Operators only.  Check out http://dover.5u.com/ for more info on the Ham
Discount.

There is a demo version of Circad downloadable at http://www.holophase.com;
although that version can be used to draw small schematics and PCBs, it's
not a replacement for the full program.

I want to apologize to Holophase and to Jay Craswell for improperly
describing the versions of Circad, and to you for any confusion this may
have caused.

73,
John N8UR
President, TAPR
jra@febo.com -- n8ur@tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 3. [ss] Digital Communications Conference Still On

From: John Ackermann  N8UR <jra@febo.com>
Date: Thu, 13 Sep 2001 17:24:05 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-35919-2001.09.13-16.51.15--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

With the tragic events of this week, we've had to seriously consider
whether it was still appropriate or feasible to hold the Digital
Communications Conference next weekend (Sept. 20-22) in Cincinnati.
Although we grieve with the whole world for the losses so many have
suffered, we believe it's important to show that terrorism will not succeed
in making us change our way of life.

So, the DCC will go on.  We realize that in light of the circumstances,
some folks who have already registered may feel they cannot attend.  If
that is the case, please contact the TAPR office (tapr@tapr.org) and we
will arrange a refund of your registration fee.  If you are traveling to
the DCC, remember that things may still be somewhat disrupted next week,
and increased security precautions will certainly cause some airport
delays.  Check with your airline early and often to make sure they haven't
changed your plans for you.

We realize that this year's DCC may well be smaller, and will certainly be
more somber, than in past years.  But we think that going ahead is the
right thing to do, and we hope that you agree.

73,
John
----
John Ackermann    N8UR         jra@febo.com     http://www.febo.com
President, TAPR                n8ur@tapr.org    http://www.tapr.org


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 4. [ss] Digital Communications Conference -- Final Update

From: "John R. Ackermann" <jra@febo.com>
Date: Tue, 18 Sep 2001 19:32:34 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-37020-2001.09.18-18.59.10--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Well, the Digital Communications Conference is only a few days away.  If
you can make your way to Cincinnati, Ohio this weekend (Sept. 21-22) we
invite you to attend the show -- registration is available at the door.
Full details, including the current schedule, are available at
http://www.tapr.org/dcc.

Here's a brief rundown; note that due to the tragic events of last week,
we've had to make some adjustments to the schedule.

Friday:

Registration Opens                    9:00AM

APRS Forum                                    1:00 - 6:00PM

(The morning part of the Forum has been cancelled.)

PRUG Social — 7:00PM
(Come enjoy the hospitality and see the latest activities of the Packet Radio Users Group of Tokyo, Japan.)

Saturday:

Registration Opens — 7:15AM

Main Program — 8:00AM - 5:00PM
(There will be a mix of introductory sessions on new aspects of digital communication, as well as more advanced topics. We think there'll be something for everyone.)

TAPR Membership Meeting — 5:00PM

Banquet — 7:00PM
(Anthony Curtis, K3RXK will speak on "40 Years of Amateur Radio in Space.")

NOTE: We've regretfully had to cancel the Sunday Seminar. If you registered for it, please stop at the registration area or contact TAPR to arrange a refund.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

# October 2001

Original source file: ss.0110
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/ss.0110

## 1. Your confirmation is needed (ok 6751)

From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Thu, 04 Oct 2001 20:17:39 -0500
To: lyris.ss@tapr.org
Message-ID: <LYR6751-40331-2001.10.04-20.17.39--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

```
Your email address 'lyris.ss@tapr.org' has been submitted to be
unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be
unsubscribed.

To confirm that you do want to unsubscribe, reply to this message so that
the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to
unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the
mailing list.

---

Return-Path: <conference-greece2001@excite.com>
Received: from ux.snd.edu.gr ([194.219.139.5]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Thu, 04 Oct 2001 20:16:59 -0500
Received: from nt1 (www.snd.edu.gr [194.219.139.130] (may be forged))
        by ux.snd.edu.gr (8.9.3/8.9.3) with SMTP id QAA31076;
        Wed, 26 Sep 2001 16:20:49 +0300
Message-ID: <003e01c1468e$ef0c8500$828bdbc2@snd.edu.gr>
From: "Conference" <conference-greece2001@excite.com>
To: ss-request
Subject:
Date: Wed, 26 Sep 2001 16:27:00 +0300
MIME-Version: 1.0
Content-Type: text/plain;
        charset="iso-8859-7"
Content-Transfer-Encoding: 7bit
X-Priority: 3
X-MSMail-Priority: Normal
X-Mailer: Microsoft Outlook Express 5.00.2417.2000
X-MimeOLE: Produced By Microsoft MimeOLE V5.00.2314.1300

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <conference-greece2001@excite.com>
Received: from ux.snd.edu.gr ([194.219.139.5]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Thu, 04 Oct 2001 20:16:59 -0500
Received: from nt1 (www.snd.edu.gr [194.219.139.130] (may be forged))
        by ux.snd.edu.gr (8.9.3/8.9.3) with SMTP id QAA31076;
        Wed, 26 Sep 2001 16:20:49 +0300
Message-ID: <003e01c1468e$ef0c8500$828bdbc2@snd.edu.gr>
From: "Conference" <conference-greece2001@excite.com>
To: <conference-greece2001@worldses.org>
Subject: MMACTEE 2001 !
Date: Wed, 26 Sep 2001 16:27:00 +0300
MIME-Version: 1.0
Content-Type: text/plain;
        charset="iso-8859-7"
Content-Transfer-Encoding: 7bit
X-Priority: 3
X-MSMail-Priority: Normal
X-Mailer: Microsoft Outlook Express 5.00.2417.2000
X-MimeOLE: Produced By Microsoft MimeOLE V5.00.2314.1300
```

Accept our apologies for SPAMing, if you receive more than one copies.
Do not reply using the previous email address.
Contact us, via the email accounts and the WEB that you can find below.
**********
3rd WSES Symposium on: MATHEMATICAL METHODS AND COMPUTATIONAL TECHNIQUES IN ELECTRICAL ENGINEERING (MMACTEE 2001)

ATHENS, GREECE, DECEMBER 29-31, 2001

DEADLINE FOR PAPER SUBMISSION: NOVEMBER 15, 2001
NOTIFICATION OF ACCEPTANCE: DECEMBER 5, 2001.

More Information (Topics, Committees, etc) at:
http://www.worldses.org/wses/Calendar.htm
 (following appropriate links)
or send a message to crete2001@groupmail.com

All the accepted papers will be published in the Proceedings (CD-ROM).
Except of the Proceedings, several luxurious books by WSES Press
International Editions will be distributed free to the participants.

SEVERAL ACCEPTED PAPERS  WILL BE ALSO  PUBLISHED
IN the journals: a) INTERNATIONAL JOURNAL OF COMPUTER RESEARCH b)
INFORMATICA c) NEURAL NETWORKS WORLD

Message from the Chairman (Prof. N.Mastorakis): I have the pleasure to
welcome you for this symposium, in the most festiv and warm atmosphere of
the christmas Athens (Dec.29-30-31, 2001). This symposium will be a real
holiday for the members and friends of WSES and a real "holiday" of the
science of electrical and computer engineering and the science of applied
mathematics. A real holiday in the birthplace of Democracy, Science, Theater
and of course of Olympic Games (Athens will host Ol.Games of 2004) The first
symposium of this series was organized in the Hellenic Naval Academy in
March 1997, the second in Athens (Building of the Hellenic Association of
Mechanical and Electrical Engineers in July 1998). The first and the second
symposium had rather local character and limited participation. This year
with the sponsorship of WSES and IEEE, this symposium is being organized in
a really international basis! The conference will take place in a luxurious
hotel in the CONSTITUTION SQUARE (Syntagma Square) which is the "heart" of
the Christmas Athens and where all the cultural athenian activities for
Christmas and for the New Year will take place. Also, the conference place
will be in a walking distance from Parthenon, Acropolis, Archaeological
Museum, Byzantine Museam, War Museum, Greek Parliament, National Academy,
National Library, Old University and Polytechneion and all the other famous
monuments, not to mention the neighboring picturesque tavernas (with live
greek music and night attractions), traditional houses and shops of Plaka!

## 2. Your confirmation is needed (ok 6751)

From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Thu, 11 Oct 2001 08:20:22 -0500
To: lyris.ss@tapr.org
Message-ID: <LYR6751-41293-2001.10.11-08.20.22--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Your email address 'lyris.ss@tapr.org' has been submitted to be
unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be
unsubscribed.

To confirm that you do want to unsubscribe, reply to this message so that
the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to
unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the
mailing list.

---

Return-Path: <imax@listbot.com>
Received: from listbot.com ([194.219.139.199]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Thu, 11 Oct 2001 08:20:19 -0500
From: "IMAX" <imax@listbot.com>
To: ss-request

Sender: "IMAX" <imax@listbot.com>
Mime-Version: 1.0
Content-Type: text/plain; charset="ISO-8859-1"
Date: Thu, 11 Oct 2001 15:57:59 +0300
Content-Transfer-Encoding: 8bit
subject:

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <imax@listbot.com>
Received: from listbot.com ([194.219.139.199]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Thu, 11 Oct 2001 08:20:19 -0500
From: "IMAX" <imax@listbot.com>
To: <leave-ss-6751t@lists.tapr.org>
Subject:
Sender: "IMAX" <imax@listbot.com>
Mime-Version: 1.0
Content-Type: text/plain; charset="ISO-8859-1"
Date: Thu, 11 Oct 2001 15:57:59 +0300
Content-Transfer-Encoding: 8bit

HOW TO UNSUBSCRIBE (see at the end)

---

IMPORTANT CONFERENCES for MIV List of WSES
(MIV:= Multimedia, Internet, Video, Signal and Image Processing, Robotics,
Distance Learning, Communications

* * * * *  2nd WSES/IEEE Conference on
SIGNAL PROCESSING, MULTIDIMENSIONAL SYSTEMS,
COMPUTATIONAL GEOMETRY AND ARTIFICIAL VISION
(organized by Prof. G.Antoniou)

* * * * *  6th WSES/IEEE Conference on COMMUNICATIONS,

* * * * *  2nd WSES/IEEE Conference on
MULTIRATE SYSTEMS AND WAVELET ANALYSIS

in the context of the 6th WSES/IEEE MULTICONFERENCE CSCC
(READ the OUTSTANDING COMMENTS by the previous participants in the web site
of the conference (connected by link to www.worldses.org)
For the year 2002, the anticipated number of submitted papers for CSCC will
be over
than 1000!

<<Technical Co-Sponsorship by IEEE Signal Processing Society >>

Rethymnon Beach, Rethymnon, CRETE ISLAND (GREECE) JULY 7-14, 2002
(Herakleion Airport in Crete has FREQUENT DIRECT Connection
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WEB  http://www.worldses.org  (following appropriate link)
OR SEND AN EMAIL to:  manolis7@worldses.org

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ALL THE ACCEPTED PAPERS will be published in TWO DIFFERENT INTERNATIONAL
FORA:
a) in the CD-ROM Proceedings (with Search Facilities and Page Numbering)
as well as
b) in the Electrical and Computer Engineering International Reference Book
Series of WSES PRESS as Post-Conference Books (Hard cover, velvet paper,
international circulation). These will be different International Editions
(with different ISBN).
This material will be ready at the opening of the Multiconference and will
be distributed to the participants.

((2))
Also SPECIAL ISSUES have been scheduled for the journals
WSES TRANSACTIONS ON COMMUNICATIONS
INTERNATIONAL JOURNAL OF COMPUTER RESEARCH (IJCR)
INFORMATICA
NEURAL NETWORKS WORLD
INTERNATIONAL JOURNAL OF COMMUNICATIONS AND NETWORKING

((3))
Social and Cultural Part:
---->Three Nights with the Greek, Cretan and International music (three
different live orchesters) and shows
---->Excursions to Minoan Palaces of Knossos, to the Archaeological Museum
of Crete and El-Greco's House
---->Festival of the town of Rethymnon


((4))
LOCATION:Crete: - Crete is a Unique Place in the World: In this magic
island, so richly endowed by Nature and History, everything is in
abundance: blond beaches with palm-trees, cool gorges, serene
coves, palm-forests, mysterious caves, minoan palaces,
paleochristian churches, byzantine churches, Islamic mosques, and
of course modern cosmopolitan life. Crete lies in the crossroads of
the three ancient continents: Europe-Asia-Africa and the Cretan
Civilization borrowed elements from European, asian and african
world. Also, Crete, in the minoan era, gave birth to the first
civilization in the west-european sense. Here, Zeus, the father and
king of ancient greek Gods was born. Many famous Artists and
Politicians like El-Greco, Venizelos, Kazantzakis and Kornaros were
born in Crete.


DEADLINE FOR PAPER SUBMISSION: FEBRUARY 5, 2002
NOTIFICATION OF ACCEPTANCE: MARCH 5, 2002


MORE DETAILS VISIT THE WEB

**********
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    http://www.worldses.org/wses/unsubscribe.htm
    select WSES ECE NEWSLETTER (Electrical and Computer Engineering)
    completing the email address that you can find inside the "To:" of
    the present message.

## 3. [ss] aironet problem (finger trouble??)

From: "Michael Pinfold" <PINFOLD@XTRA.CO.NZ>
Date: Mon, 22 Oct 2001 13:15:2
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-42900-2001.10.22-13.40.59--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have four AR240-2400. one suffered water damage and  it was sent to
aironet for repair last year, I put it away as a spare . I got it out to
use it in a project (high speed internet access at home ) set it up  the
same as the other three  (radio config). tried root and non root. auto scan
off and on, sids all the same etc   .It appers to transmitt ( I can see RF
bursts on spec an) but no way will it lock to any of the other three?? what
am I doing wrong ?? what have I missed ?? are they compatible ?? is there
any software to enable me to look at other perameters? On start up it now
reads  BR2000E  version  V5.29  I guessed they replaced the guts . is it a
firmware clash? i have visited the aironet site and there is no firmware
upgrade for ar640-2400 ??? anybody able to help  thanks mike ZL1BTB

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 4. [ss] Re: aironet problem (finger trouble??)

From: Francis See <francisc@asia.com>
Date: Tue, 23 Oct 2001 23:00:47 +0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-43037-2001.10.23-10.26.55--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Michael,

At 01:15 PM 10/22/2001 +0000, Michael Pinfold wrote:
>I have four AR240-2400. one suffered water damage and  it was sent to
>aironet for repair last year, I put it away as a spare . I got it out to
>use it in a project (high speed internet access at home ) set it up  the
>same as the other three  (radio config). tried root and non root. auto scan

>off and on, sids all the same etc

You must referring to the ARLAN 640-2400 (?)

>  .It appers to transmitt ( I can see RF
>bursts on spec an) but no way will it lock to any of the other three?? what
>am I doing wrong ?? what have I missed ?? are they compatible ?? is there

Go to:

Configuration Radio Extended Menu, make sure the "Bridge Mode" is the same
for all
other 640s.

>any software to enable me to look at other perameters? On start up it now
>reads  BR2000E  version  V5.29  I guessed they replaced the guts . is it a

A firmware upgrade to v5.29, the old 640 name will change to BR2000E.

>firmware clash? i have visited the aironet site and there is no firmware
>upgrade for ar640-2400 ??? anybody able to help  thanks mike ZL1BTB

It is recommended that all 640 should have the same firmware, otherwise your
system may crash.  It's either you upgrade all units to the v5.29 or
convert the
single unit back to your current firmware version.

BTW, what's your current firmware?  I might have a copy...

Regards,

Francis

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 5. [ss] Re: aironet problem (finger trouble??)

From: "Pinfold" <pinfold@xtra.co.nz>
Date: Wed, 24 Oct 2001 06:34:03 +1300
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-43090-2001.10.23-13.03.40--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Francis, How are you?  thank-you for replying.  Its 6:30 am here in
Rotorua New Zealand once I awake i usually have to get up so may as well
check the email.  The other three 640-2400 have version 3.3p (sticker on
back and shows in start up menu as V3.3 )  Thankyou for you offer Id love to
change the firmware  what have you and is it a straight forward job I do
have the manuals for the radios too and it talks about  loading the firmware
in and out. should I change them to 5.29?  I could try one and see how the
two  goes ? I dont know anything about 3.3 verses 5.29 although 5.29 has a
few extra features incorporated . anyway Thank You  regards Mike Pinfold
----- Original Message -----
From: Francis See <francisc@asia.com>
To: TAPR Spread Spectrum Special Interest Group <ss@lists.tapr.org>
Sent: Wednesday, October 24, 2001 4:00 AM
Subject: [ss] Re: aironet problem (finger trouble??)

> Hi Michael,
>
> At 01:15 PM 10/22/2001 +0000, Michael Pinfold wrote:
> >I have four AR240-2400. one suffered water damage and  it was sent to
> >aironet for repair last year, I put it away as a spare . I got it out to
> >use it in a project (high speed internet access at home ) set it up  the
> >same as the other three  (radio config). tried root and non root. auto
scan
> >off and on, sids all the same etc
>
> You must referring to the ARLAN 640-2400 (?)
>

> >  .It appers to transmitt ( I can see RF
> >bursts on spec an) but no way will it lock to any of the other three??
what
> >am I doing wrong ?? what have I missed ?? are they compatible ?? is there
>
> Go to:
>
> Configuration Radio Extended Menu, make sure the "Bridge Mode" is the same
> for all
> other 640s.
>
>
> >any software to enable me to look at other perameters? On start up it now
> >reads  BR2000E  version  V5.29  I guessed they replaced the guts . is it
a
>
> A firmware upgrade to v5.29, the old 640 name will change to BR2000E.
>
>
> >firmware clash? i have visited the aironet site and there is no firmware
> >upgrade for ar640-2400 ??? anybody able to help  thanks mike ZL1BTB
>
> It is recommended that all 640 should have the same firmware, otherwise
your
> system may crash.  It's either you upgrade all units to the v5.29 or
> convert the
> single unit back to your current firmware version.
>
> BTW, what's your current firmware?  I might have a copy...
>
>
> Regards,
>
>
> Francis
>
>
>
>
> ---
> You are currently subscribed to ss as: PINFOLD@XTRA.CO.NZ
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>



---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 6. [ss] Re: aironet problem (finger trouble??)

From: Francis See <francisc@asia.com>
Date: Wed, 24 Oct 2001 16:51:28 +0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-43246-2001.10.24-04.18.42--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Michael,

I'll be sending you the firmwares and instructions on a separate email.

BTW, Aironet has a forum at:

http://csl.cse.ucsc.edu/mailman/listinfo/aironet


73, Francis DU3HF



At 06:34 AM 10/24/2001 +1300, Pinfold wrote:
>Hi Francis, How are you?  thank-you for replying.  Its 6:30 am here in
>Rotorua New Zealand once I awake i usually have to get up so may as well
>check the email.  The other three 640-2400 have version 3.3p (sticker on
>back and shows in start up menu as V3.3 )  Thankyou for you offer Id love to
>change the firmware  what have you and is it a straight forward job I do
>have the manuals for the radios too and it talks about  loading the firmware
>in and out. should I change them to 5.29?  I could try one and see how the

>two  goes ? I dont know anything about 3.3 verses 5.29 although 5.29 has a
>few extra features incorporated . anyway Thank You  regards Mike Pinfold
>----- Original Message -----
>From: Francis See <francisc@asia.com>
>To: TAPR Spread Spectrum Special Interest Group <ss@lists.tapr.org>
>Sent: Wednesday, October 24, 2001 4:00 AM
>Subject: [ss] Re: aironet problem (finger trouble??)
>
>
> > Hi Michael,
> >
> > At 01:15 PM 10/22/2001 +0000, Michael Pinfold wrote:
> > >I have four AR240-2400. one suffered water damage and  it was sent to
> > >aironet for repair last year, I put it away as a spare . I got it out to
> > >use it in a project (high speed internet access at home ) set it up  the
> > >same as the other three  (radio config). tried root and non root. auto
>scan
> > >off and on, sids all the same etc
> >
> > You must referring to the ARLAN 640-2400 (?)
> >
> > >  .It appers to transmitt ( I can see RF
> > >bursts on spec an) but no way will it lock to any of the other three??
>what
> > >am I doing wrong ?? what have I missed ?? are they compatible ?? is there
> >
> > Go to:
> >
> > Configuration Radio Extended Menu, make sure the "Bridge Mode" is the same
> > for all
> > other 640s.
> >
> >
> > >any software to enable me to look at other perameters? On start up it now
> > >reads  BR2000E  version  V5.29  I guessed they replaced the guts . is it
>a
> >
> > A firmware upgrade to v5.29, the old 640 name will change to BR2000E.
> >
> >
> > >firmware clash? i have visited the aironet site and there is no firmware
> > >upgrade for ar640-2400 ??? anybody able to help  thanks mike ZL1BTB
> >
> > It is recommended that all 640 should have the same firmware, otherwise
>your
> > system may crash.  It's either you upgrade all units to the v5.29 or
> > convert the
> > single unit back to your current firmware version.
> >
> > BTW, what's your current firmware?  I might have a copy...
> >
> >
> > Regards,
> >
> >
> > Francis
> >
> >
> >
> >
> > ---
> > You are currently subscribed to ss as: PINFOLD@XTRA.CO.NZ
> > To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
> >
> >
>
>
>
>---
>You are currently subscribed to ss as: francisc@asia.com
>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 7. [ss] Re: aironet problem (finger trouble??)

From: "Pinfold" <pinfold@xtra.co.nz>
Date: Wed, 24 Oct 2001 23:16:24 +1300
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-43254-2001.10.24-05.45.59--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thankyou very much Francis Ive been trying to figure a way of getting the v5.29 firmware out of the 640-2400 and into the other one via ethernet cable etc  great timing  I await the email (ps it has just turned up !!! )cheers  73's  ZL1BTB

----- Original Message -----
From: Francis See
To: TAPR Spread Spectrum Special Interest Group
Sent: Wednesday, October 24, 2001 9:51 PM
Subject: [ss] Re: aironet problem (finger trouble??)

Michael,

I'll be sending you the firmwares and instructions on a separate email.

BTW, Aironet has a forum at:

http://csl.cse.ucsc.edu/mailman/listinfo/aironet

73, Francis DU3HF

At 06:34 AM 10/24/2001 +1300, Pinfold wrote:

Hi Francis, How are you?  thank-you for replying.  Its 6:30 am here in Rotorua New Zealand once I awake i usually have to get up so may as well check the email.  The other three 640-2400 have version 3.3p (sticker on back and shows in start up menu as V3.3 )  Thankyou for you offer Id love to change the firmware  what have you and is it a straight forward job I do have the manuals for the radios too and it talks about  loading the firmware in and out. should I change them to 5.29?  I could try one and see how the two  goes ? I dont know anything about 3.3 verses 5.29 although 5.29 has a few extra features incorporated . anyway Thank You  regards Mike Pinfold

----- Original Message -----
From: Francis See <francisc@asia.com>
To: TAPR Spread Spectrum Special Interest Group <ss@lists.tapr.org>
Sent: Wednesday, October 24, 2001 4:00 AM
Subject: [ss] Re: aironet problem (finger trouble??)

> Hi Michael,
>
> At 01:15 PM 10/22/2001 +0000, Michael Pinfold wrote:
> >I have four AR240-2400. one suffered water damage and  it was sent to
> >aironet for repair last year, I put it away as a spare . I got it out to
> >use it in a project (high speed internet access at home ) set it up  the
> >same as the other three  (radio config). tried root and non root. auto
> scan
> >off and on, sids all the same etc
>
> You must referring to the ARLAN 640-2400 (?)
>
> >  .It appers to transmitt ( I can see RF
> >bursts on spec an) but no way will it lock to any of the other three??
> what
> >am I doing wrong ?? what have I missed ?? are they compatible ?? is there
>
> Go to:
>
> Configuration Radio Extended Menu, make sure the "Bridge Mode" is the same
> for all
> other 640s.
>
>
> >any software to enable me to look at other perameters? On start up it now
> >reads  BR2000E  version  V5.29  I guessed they replaced the guts . is it
> a
>
> A firmware upgrade to v5.29, the old 640 name will change to BR2000E.
>
>
> >firmware clash? i have visited the aironet site and there is no firmware
> >upgrade for ar640-2400 ??? anybody able to help  thanks mike ZL1BTB
>
> It is recommended that all 640 should have the same firmware, otherwise
> your
> system may crash.  It's either you upgrade all units to the v5.29 or
> convert the

> single unit back to your current firmware version.
>
> BTW, what's your current firmware?  I might have a copy...
>
>
> Regards,
>
>
> Francis
>
>
>
>
> ---
> You are currently subscribed to ss as: PINFOLD@XTRA.CO.NZ
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>



---
You are currently subscribed to ss as: francisc@asia.com
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 8. [ss] DIGITAL brand AP unit

From: "Pinfold" <pinfold@xtra.co.nz>
Date: Wed, 31 Oct 2001 07:15:07 +1300
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: "Bill Goodall" <bill.goodall@clear.net.nz>
Message-ID: <LYR6751-44397-2001.10.30-12.44.47--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Everybody out there ,the days appear to be flying by and christmas is looming up rapidly !! any way I
 have a request I hope someone can help me with .I have been playing with an old Digital brand
"roamabout" Access Point unit and would like to get hold of some software to interrogate it frequencies
settings etc via its coms port  from a pc . Any body out there got any copies of suitable software  or
any information on its power output sensitivity, circuits  etc etc ??? it seems a well built unit,  It
is 2.4 Ghz Direct Sequence, and there is a number on the AP under the PCMCIA card slot,
00-60-6D-D9-68-5A. The RF unit is an external module with the antenna connector at one end and at the
other a short cable with a flat
plug on the end that plugs into the PCM card. The PCM card plugs into a slot
on the front of the AP unit, which also has a UTP port and a selection of
LEDs on the front and a coax ethernet connector on the side. That's it! Not
much to go on, eh? Thanks in advance .Mike ZL1BTB

# November 2001

Original source file: ss.0111
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/ss.0111

## 1. [ss] Just Joined

From: Joe Mayenschein <mayen1@mwt.net>
Date: Thu, 22 Nov 2001 17:02:32 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-48175-2001.11.22-17.29.18--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Greeting everyone.

Here is Joe WB9SBD
 and I'm interested in learning about SS.
Looking forward to be asking some questions.

Joe

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 2. [ss] Re: SS

From: Joe Mayenschein <mayen1@mwt.net>
Date: Fri, 23 Nov 2001 12:21:26 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-48288-2001.11.23-12.48.00--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Greetings Gene,

I'm totally ignorant when it comes to SS. I've done a little reading that I could find. And learned some, like how narrow
band signals really won't effect a SS signal.

I have a question,, can two SS signals (or more,), be on at the same time and same freq and get their data through?

Joe
genem@bee.net wrote:

> Hi Joe:
> This is Gene K3DSM
> I also am interested in Spread Spectrum.
> I don't get much info from here other than picking up email
> to contact others. Even that has been quiet lately.
> I used SS with Ricochet service on 900 mhz while the service was up. I also use 802.11B wireless networking
> that also uses SS. Its too bad there isn't more on ham radio.
>
> Have a personal web page if you want to keep in touch more: www.5dnet.com with links to my ham stuff and other stuff too.
>
> Gene K3DSM

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 3. [ss] Re: SS-more

From: Joe Mayenschein <mayen1@mwt.net>
Date: Fri, 23 Nov 2001 16:56:34 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-48304-2001.11.23-17.23.34--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

genem@bee.net wrote:

> >Yes! Many can access a SS receiver at the same time.

Have a clue as to how many?

The reason I was thinking of this whole black box on airplanes thing.  If it is sooo important to have

this data, why store it on a crashing plane?  Why not downlink it all to
stations on the ground?  Just like telemetry?  Everything can be sent to the ground and be safe.

Why do we rely so much on the onboard recorder?

Joe

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 4. [ss] Re: SS-more

From: Art Clemons <n8blk@aol.com>
Date: Fri, 23 Nov 2001 18:11:48 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-48307-2001.11.23-17.39.30--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

mayen1@mwt.net wrote:

> The reason I was thinking of this whole black box on airplanes thing.  If it is sooo important to have
 this data, why store it on a crashing plane?  Why not downlink it all to
> stations on the ground?  Just like telemetry?  Everything can be sent to the ground and be safe.

I can think of several reasons, not least of which is privacy.  The
Black Boxes are not supposed to be used except during an investigation.
  One can also imagine competitors decoding black boxes for information
useful to competitors if such things are stored, as well as hackers,
terrorists, and just those who desire a challenge.

> Why do we rely so much on the onboard recorder?

Up until recently, it was the most reliable technology for such a
situation.  You might want to also consider flights over water as an
example of another problem, namely what stations on the ground that are
readily accessible.  Even using satellites, we might have problems with
access by the unauthorized.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 5. [ss] Re: SS-more

From: n2uck@banet.net
Date: Fri, 23 Nov 2001 19:39:57 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-48319-2001.11.23-18.55.48--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Don't forget the added weight and the drag caused by the antennas (need one on top and one on the bottom
 of the airplane).  Figure the added operational cost (meaning extra fuel
burned) over the life of the aircraft and you have your reason why not.

Roman S. Makuch, N2UCK

Art Clemons wrote:

> mayen1@mwt.net wrote:
>
> > The reason I was thinking of this whole black box on airplanes thing.  If it is sooo important to
have this data, why store it on a crashing plane?  Why not downlink it all to
> > stations on the ground?  Just like telemetry?  Everything can be sent to the ground and be safe.
>
> I can think of several reasons, not least of which is privacy.  The
> Black Boxes are not supposed to be used except during an investigation.
>   One can also imagine competitors decoding black boxes for information
> useful to competitors if such things are stored, as well as hackers,
> terrorists, and just those who desire a challenge.
>
>
> > Why do we rely so much on the onboard recorder?

> 
> Up until recently, it was the most reliable technology for such a
> situation.  You might want to also consider flights over water as an
> example of another problem, namely what stations on the ground that are
> readily accessible.  Even using satellites, we might have problems with
> access by the unauthorized.
> 
> 
> 
> ---
> You are currently subscribed to ss as: n2uck@banet.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org



---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 6. [ss] RE: ss digest: November 23, 2001

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Sat, 24 Nov 2001 21:53:23 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-48373-2001.11.24-05.24.58--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

G'Day All from the country that invented the black box :-)

For more information on the concept of the black box, check out the
Michael Crictendon (and I am sure I have got the spelling wrong) book
called Airframe. It details a fictional investigation of an airbourne
incident, and how flight data recorders are used. Notice that I did not
use the word Black Box... Aircraft are getting more computers in them
all the time, and many of them speak to each other... Some of them
record information, just like your modern car engine computer.

Basically with the increase of technology, lots of devices are appearing
on planes recording information... If you checked, you could probably
find that the in flight entertainment system recorded when it was
powered up, and for how long... And this is stored in NV memory. This is
useful to know when power to the plain is lost in an accident

The most important reason for storing black box information inside the
plane is reliability.

If you put a transmitter on a plane to downlink the important
information, you could be sure that the downlink would fail at the wrong
time.... The transmitter or the link to it might be destroyed a second
or two too soon... A piece of engine might get in the way of the
tranmitter etc. There is really no reliable way to getting the
information off the plane.

>From what I read in the computer risks journal, they are now using ION
beams to repair damaged EEPROMs from downed aircraft... Pretty amazing.

And then assuming that the information did get off, I am sure that the
data would be lost because of server failures on the ground.

Oh... If I was being nasty I would jam these signals... GPS can be
jammed so why not an aircraft downlink... [Question for the home
audience... I can built a GPS jammer with an MMIC, Restistor and piece
of wire... Any way to reduce the part count and cost to US$1 instead of
US$2 :-) ]

I do not think that the reason of security is valid... Anyone who thinks
this should do a search for ACARS... This is a system for transfering
information around the world of aircraft positions, and important
information - such as the tray table of 3B being broken, or needing a
mechanic to repair an engine generator when the plane lands to reduce
the waiting time on the ground.

>Don't forget the added weight and the drag caused by the antennas
>(need one on top and one on the bottom of the airplane).  Figure the
>added operational cost (meaning extra fuel
>burned) over the life of the aircraft and you have your reason why not.

I do not really think that this would be a concern... If I were using SS
on a plane, I would either
        a) Use a patch antenna on the bottom of the plane where the

increase in drag is equivalent to a thick coat of paint
        b) Put the antenna in a piece of the plane that is not really
metal (Nose radar area, etc)
        c) Multiplexed onto another antenna...

Darryl VK2TDS

---------
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au for domain names

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 7. [ss] RE: ss digest: November 23, 2001

From: Jim Sanford <wb4gcs@amsat.org>
Date: Sat, 24 Nov 2001 07:28:57 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-48384-2001.11.24-06.57.17--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Darryl:
GREAT book!  I've read it twice . . .

73,
Jim

Darryl Smith wrote:
> G'Day All from the country that invented the black box :-)
>
> For more information on the concept of the black box, check out the
> Michael Crictendon (and I am sure I have got the spelling wrong) book
> called Airframe. It details a fictional investigation of an airbourne
> incident, and how flight data recorders are used. Notice that I did not
> use the word Black Box... Aircraft are getting more computers in them
> all the time, and many of them speak to each other... Some of them
> record information, just like your modern car engine computer.
>
> Basically with the increase of technology, lots of devices are appearing
> on planes recording information... If you checked, you could probably
> find that the in flight entertainment system recorded when it was
> powered up, and for how long... And this is stored in NV memory. This is
> useful to know when power to the plain is lost in an accident
>
> The most important reason for storing black box information inside the
> plane is reliability.
>
> If you put a transmitter on a plane to downlink the important
> information, you could be sure that the downlink would fail at the wrong
> time.... The transmitter or the link to it might be destroyed a second
> or two too soon... A piece of engine might get in the way of the
> tranmitter etc. There is really no reliable way to getting the
> information off the plane.
>
> >From what I read in the computer risks journal, they are now using ION
> beams to repair damaged EEPROMs from downed aircraft... Pretty amazing.
>
> And then assuming that the information did get off, I am sure that the
> data would be lost because of server failures on the ground.
>
> Oh... If I was being nasty I would jam these signals... GPS can be
> jammed so why not an aircraft downlink... [Question for the home
> audience... I can built a GPS jammer with an MMIC, Restistor and piece
> of wire... Any way to reduce the part count and cost to US$1 instead of
> US$2 :-) ]
>
> I do not think that the reason of security is valid... Anyone who thinks
> this should do a search for ACARS... This is a system for transfering
> information around the world of aircraft positions, and important
> information - such as the tray table of 3B being broken, or needing a
> mechanic to repair an engine generator when the plane lands to reduce
> the waiting time on the ground.

>
> >Don't forget the added weight and the drag caused by the antennas
> >(need one on top and one on the bottom of the airplane).  Figure the
> >added operational cost (meaning extra fuel
> >burned) over the life of the aircraft and you have your reason why not.
>
> I do not really think that this would be a concern... If I were using SS
> on a plane, I would either
>         a) Use a patch antenna on the bottom of the plane where the
> increase in drag is equivalent to a thick coat of paint
>         b) Put the antenna in a piece of the plane that is not really
> metal (Nose radar area, etc)
>         c) Multiplexed onto another antenna...
>
> Darryl VK2TDS
>
> ---------
> Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
> Mobile Number 0412 929 634 [+61 4 12 929 634 International]
> Darryl@radio-active.net.au | www.radio-active.net.au for domain names
>
> ---
> You are currently subscribed to ss as: WB4GCS@AMSAT.ORG
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 8. [ss] Laser

From: GKadir@aol.com
Date: Sat, 24 Nov 2001 18:21:19 EST
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-48456-2001.11.24-17.49.19--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi All,

Is there a such a thing as "Wireless via Laser"  I would like to connect two
sites via laser technology, can anyone assist me on this please

Thanks

---
You are currently subscribed to ss as: lyris.ss@tapr.org
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## 9. [ss] Re: Laser

From: Hamish Moffatt <hamish@cloud.net.au>
Date: Sun, 25 Nov 2001 10:41:58 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-48464-2001.11.24-18.09.30--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Sat, Nov 24, 2001 at 06:21:19PM -0500, GKadir@aol.com wrote:
> Is there a such a thing as "Wireless via Laser"  I would like to connect two
> sites via laser technology, can anyone assist me on this please

Yes there was an article in IEEE Spectrum about it earlier this year.
I don't have any URLs for you though.

Hamish
--
Hamish Moffatt VK3SB <hamish@debian.org> <hamish@cloud.net.au>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 10. [ss] Re: Laser

From: "Jim Pearce" <jwp@pegasustech.com>
Date: Sat, 24 Nov 2001 18:45:28 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-48466-2001.11.24-18.12.39--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

http://www.airfiber.com/
http://www.laserwireless.com/

http://www.lightpointe.com/
http://www.lsainc.com/
http://www.opticalaccess.com/

**************************************************
Jim Pearce, PE W4DY              V - (865) 717-1019
Director, Pegasus Technologies   F - (865) 717-1044
254 Babbs Rd.
Lenoir City, TN 37771

http://www.pegasustech.com
http://sss-mag.com
**************************************************

----- Original Message -----
From: <GKadir@aol.com>
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Sent: Saturday, November 24, 2001 6:21 PM
Subject: [ss] Laser


> Hi All,
>
> Is there a such a thing as "Wireless via Laser"  I would like to connect two
> sites via laser technology, can anyone assist me on this please
>
> Thanks
>
> ---
> You are currently subscribed to ss as: jwp@pegasustech.com
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 11. [ss] Re: Laser

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Sun, 25 Nov 2001 16:42:20 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-48492-2001.11.25-00.13.19--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

From: GKadir@aol.com
>Is there a such a thing as "Wireless via Laser"  I would like to
connect two
>sites via laser technology, can anyone assist me on this please

I have seen adds for this, I cannot remember the name of the company
though... From memory they use infra-red lasers to do the
communications... If you check with the FCC I think that you will find
that this part of the spectrum is licenses, but is probably under part
15 under most conditions.

OK - Just found a link
http://www.astroterra.com/products/t_3000/t_3000.htm . It is up to 155
Mbit/sec, and uses 3 paralell laser paths - range up to 3.75 KM... Very
hard to listen in to :-)... Just rememeber that this may drop out in bad
weather, like rain, hail, tornados and the like.

Wireless Via Laser is almost identical to IrDa, built into every
laptop... The only difference is that IrDa tends to be LED rather than
LASER.... Laser is just the physical layer.

Darryl
---------
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au for domain names



---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 12. [ss] Re: ss digest: October 22, 2001

From: "Robert Alred" <_ralred@mindspring.com>
Date: Mon, 26 Nov 2001 16:24:23 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-48763-2001.11.26-15.52.11--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/html

[Empty message body]

## 13. [ss] Re: ss digest: November 25, 2001

From: Jim Ussailis <ussailis@equinox.shaysnet.com>
Date: Mon, 26 Nov 2001 16:34:45 -0500 (EST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: ss digest recipients <ss@lists.tapr.org>
Message-ID: <LYR6751-48766-2001.11.26-16.00.00--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Wireless via laser...

This is more common than one might think. Most remote controls for TV,
etc., use an IR laser.

Way, way back in the dark ages (way before Intel) laser light has been
reflected from the moon. The Apollo 11 crew left a retro-refelector there
for this purpose. It was used to accurately measure the distance to the
moon, but any high power laser should see a return. unless it is now
covered with dust.

Back on Earth, some hams use laser communications. With all the bandwidth
available, why would one use SS? This should be an interesting field. We
could have laser communications between computers while we "mountain-top"
We could have a contest, even. At least it would be a fair weather contest!

In the US, laser light is above that frequency that is governed by the
FCC, so we don't even need a license.

W1EQO

On Mon, 26 Nov 2001, TAPR Spread Spectrum Special Interest Group digest wrote:

> TAPR Spread Spectrum Special Interest Group Digest for Sunday, November 25, 2001.
>
> 1. Re: Laser
>
> ----------------------------------------------------------------------
>
> Subject: Re: Laser
> From: "Darryl Smith" <Darryl@radio-active.net.au>
> Date: Sun, 25 Nov 2001 16:42:20 +1100
> X-Message-Number: 1
>
> From: GKadir@aol.com
> >Is there a such a thing as "Wireless via Laser"  I would like to
> connect two
> >sites via laser technology, can anyone assist me on this please
>
> I have seen adds for this, I cannot remember the name of the company
> though... From memory they use infra-red lasers to do the
> communications... If you check with the FCC I think that you will find
> that this part of the spectrum is licenses, but is probably under part
> 15 under most conditions.
>
> OK - Just found a link
> http://www.astroterra.com/products/t_3000/t_3000.htm . It is up to 155
> Mbit/sec, and uses 3 paralell laser paths - range up to 3.75 KM... Very
> hard to listen in to :-)... Just rememeber that this may drop out in bad
> weather, like rain, hail, tornados and the like.
>
> Wireless Via Laser is almost identical to IrDa, built into every
> laptop... The only difference is that IrDa tends to be LED rather than
> LASER.... Laser is just the physical layer.
>
> Darryl
> ---------
> Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
> Mobile Number 0412 929 634 [+61 4 12 929 634 International]
> Darryl@radio-active.net.au | www.radio-active.net.au for domain names
>

> 
> 
> 
> 
> 
> 
> ---
> 
> END OF DIGEST
> 
> ---
> You are currently subscribed to ss as: ussailis@shaysnet.com
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
> 
> 

---
You are currently subscribed to ss as: lyris.ss@tapr.org
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## 14. [ss] Re: ss digest: November 25, 2001

From: "Kent's BGA Account" <akent@bga.com>
Date: Mon, 26 Nov 2001 20:17:38 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-48807-2001.11.26-20.46.35--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi all:

Actually, remote controls use IR LED's and not lasers. They are generally
OOK modulated, and contain an OOK'ed carrier of generally from 35 to 50khz.
The data rate is very slow, on the order of 100 to 150 bits/second. Sharp
makes inexpensive little receivers available from radio shack and Digikey.
They only respond to a special carrier OOK frequency. I use these all the
time in my autonomous robotics hobby.

Back in the early 90's I worked with several laser plotter manufacturers and
designed the controllers for the lasers. The faster units could modulate the
laser at up to 250 megabits/second. These used a very fast A0 modulator,
which physically moved the laser beam (these were 10mw HeNe) off target a
few degrees. It was tough to drive these at the time!

I actually took one of these laser heads, and removed the scan mirror
assembly, and was able to transmit data at 10mbs, using circuitry around a
then available and really stupid Ethernet board. I built a receiver using a
fast PIN diode behind a 6 inch fresnel lense, set inside a heavy cardboard
box painted black. The tested range was 2 miles, from two adjacent hilltops
in central Texas. The BER was very low once the laser was aimed properly. I
used a simple two lense telescope for the laser beam collomator. This setup
would have easily gone much farther even with the 10mw laser, but aiming and
stability is a big issue! I did this just for fun at the time. Of course,
this was a unidirectional setup. You obviously need two complete setups to
go bi-directional.

Yeah, you could run a gigawatt laser! Noone regulates lasers, yet.

These days, I would probably opt for a high speed IR laser LED modules.
These are incredibly fast, so you could sub modulate one with any number of
methods for some very fast throughput.

Take care,
Kent de KC5WPW

Jim wrote:
> Wireless via laser...
> 
> This is more common than one might think. Most remote controls for TV,
> etc., use an IR laser.
> 
> Way, way back in the dark ages (way before Intel) laser light has been
> reflected from the moon. The Apollo 11 crew left a retro-refelector there
> for this purpose. It was used to accurately measure the distance to the
> moon, but any high power laser should see a return. unless it is now
> covered with dust.
> 
> Back on Earth, some hams use laser communications. With all the bandwidth
> available, why would one use SS? This should be an interesting field. We
> could have laser communications between computers while we "mountain-top"
> We could have a contest, even. At least it would be a fair weather
contest!

>
> In the US, laser light is above that frequency that is governed by the
> FCC, so we don't even need a license.
>
> W1EQO
>

---
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## 15. [ss] Re: ss digest: November 25, 2001

From: "Kent's BGA Account" <akent@bga.com>
Date: Mon, 26 Nov 2001 20:32:51 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-48812-2001.11.26-21.01.34--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Oops, I meant 'high speed IR laser modules', and not what I said.

I wrote:
> These days, I would probably opt for a high speed IR laser LED modules.

Kent

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 16. [ss] RE: Laser

From: wchast@utilpart.com
Date: Mon, 26 Nov 2001 14:41:09 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-48724-2001.11.26-14.08.59--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Go to www.lasermate.com
They have something called a VCEL this laser diode looks more like
a LED and is much less sensitive to all of the dragons that set in
wait for a laser diode (over whatever) you can put them in place of
infrred diodes and they put out good laser power levels. Also the
case tends to have a the lense built into the device so you can start
out without having to add lenses for your initial experiments.
These diodes can also be turned on and off at a much greater rate and
you do not have to worry about overshot killing the diode as can happen
with standard diodes.

If you want to start with something go out and find some cheap laser
pointers, tear them apart and see if you can turn them on and off with
a transistor in the right place.

Use PIN diodes for detectors.

If you want all kinds of info on this go to Sam's Laser FAQ:
http://www.repairfaq.org/sam/laserfaq.htm#faqtoc
Sam has a very good collection of stuff on this and other laser related
activities.
You can also join the Laser list from his home page.

Get on the terrahertz bands, there is some neat stuff to do up there...

-----Original Message-----
From: GKadir@aol.com [mailto:GKadir@aol.com]
Sent: Saturday, November 24, 2001 06:21 PM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] Laser

Hi All,

Is there a such a thing as "Wireless via Laser"  I would like to connect two

sites via laser technology, can anyone assist me on this please

Thanks

---
You are currently subscribed to ss as: wchast@utilpart.com
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

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You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 17. [ss] Re: ss digest: November 25, 2001

From: wchast@utilpart.com
Date: Wed, 28 Nov 2001 10:25:26 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-49066-2001.11.28-09.53.22--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

-----Original Message-----
From: Kent's BGA Account [mailto:akent@bga.com]
Sent: Monday, November 26, 2001 09:18 PM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] Re: ss digest: November 25, 2001

OSHA and CDRH would both like to talk to you about this particularly
if running it in clear air, and if near a airport even more so. In
order to do laser light shows in the open air you now must obtain a
permit from the CDRH. A blast of laser light into the cockpit of a
aircraft could create a real problem.

#Yeah, you could run a gigawatt laser! Noone regulates lasers, yet.
#

They do not regulate the frequency, but they do regulate the power output
and how these devices maybe used.

Most of it is just common sense, we as amateurs who work with RF and in
the case of transmitters probably high voltages I believe understand these
concepts well, it is just a bit different handling and care, just as you
should not place a antenna such that people can get into a high power near
field, you should not place a laser so that people can look down the beam
at the source, and infrared is even more critical because you can not see it
and there is no warning that the damage is being done, also infrared devices
come in considerable power.

#These days, I would probably opt for a high speed IR laser LED modules.
#These are incredibly fast, so you could sub modulate one with any number of
#methods for some very fast throughput.
#
#> In the US, laser light is above that frequency that is governed by the
#> FCC, so we don't even need a license.
#>
No but you should again be very careful particularly in the vecinity of
airports.

Here is a good list of safety sites to look at, again this is take from
"Sam's Laser FAQ"

http://www.repairfaq.org/sam/laserlir.htm#lirweb0

Get on the "light bands" and have beaming good time!!

You can get laser pointers at prices that do not hurt so bad when you
trash one. Many of them no longer even have regulation, so digging into
one and modulating it is not such a big deal, you just need to be careful
not to spike it.

---
You are currently subscribed to ss as: wchast@utilpart.com
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org


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---
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## 18. [ss] Laser or Spread Specrum

From: GKadir@aol.com
Date: Fri, 30 Nov 2001 12:06:23 EST
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-49389-2001.11.30-11.34.15--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi All,

Thank you very much for your feedback on the laser, much appreciated.

I have learnt that with laser, if there's bad weather or fog you most
probably lose the signal.  As this application is for a voice circuit, I
don't think we are able to run with it.

Can anyone advice me where I can come with a good working spread spectrum
solution, between our two sites which are 500 meters apart maximum.
I would rather use a bi-directional antenna with this.

Thanks

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 19. [ss] Re: Laser or Spread Specrum

From: Jeff King <jeff@aerodata.net>
Date: Fri, 30 Nov 2001 12:31:16 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-49391-2001.11.30-12.00.19--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Just about any 802.11b card with a modest gain antenna should work here. Some
of them even claim 1500 feet (~<500meters) out of the box with stock antennas,
so with some gain antennas it should be rock solid.

GKadir@aol.com wrote:


> Can anyone advice me where I can come with a good working spread spectrum
> solution, between our two sites which are 500 meters apart maximum.
> I would rather use a bi-directional antenna with this.


|-----------------------------------------------------------------------|
| Jeff King   248-471-1787  F 248-471-0279 e-mail: jeff@aerodata.net     |
|                                                                       |
| "They that give up essential liberty to obtain a little temporary safety|
| deserve neither liberty nor safety."  -- Benjamin Franklin, 1759       |

|------------------------------------------------------------------------|

---
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## 20. [ss] RE: Laser or Spread Specrum

From: wchast@utilpart.com
Date: Fri, 30 Nov 2001 13:00:03 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-49393-2001.11.30-12.28.10--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

If you pick your laser properly (you want one that
produces radiation in one of the water windows) you can
probably go across that 500m path. I think that the
720nm (type of laser found in CD drives and some laser
printers) does well though red does well just as does
green, though I believe that green goes through the
precip better. For modulation you could pulse width
modulate a 555 and then extract the audio from the
pcm on the far end. If I remember right there are
several circuits on Sams site that allow you to do
that. Voice on a laser is a common demo for light
link comms, and is not so hard. You could also AM the
laser but that is much more given to noise from precip
and other material in the path.

-----Original Message-----
From: GKadir@aol.com [mailto:GKadir@aol.com]
Sent: Friday, November 30, 2001 12:06 PM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] Laser or Spread Specrum

Hi All,

Thank you very much for your feedback on the laser, much appreciated.

I have learnt that with laser, if there's bad weather or fog you most
probably lose the signal.  As this application is for a voice circuit, I
don't think we are able to run with it.

Can anyone advice me where I can come with a good working spread spectrum
solution, between our two sites which are 500 meters apart maximum.
I would rather use a bi-directional antenna with this.

Thanks

---
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# December 2001

Original source file: ss.0112
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/ss.0112

## 1. [ss] Laser or Spread Specrum

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Sat, 1 Dec 2001 17:33:54 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-49475-2001.12.01-01.05.22--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

G'Day

A good indicator as to if LASER will work, is are there times that you could not see a torch at the other loction when using a telescope? And then can you see a TV remote control if using an Infra Red camera. Most bad weather will mean that you cannot see them.

802.11 is probably the way to go. Do a search on the net for free wireless networks. Also have a look at nocat.net . The reason for NOCAT... Einstein said that wireless is like pulling a cats tail and hearing it scream, without the cat :-) Telegraph is a cat with a 100 mile tail...

Darryl

---
Darryl Smith, VK2TDS  POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au for domain names

---
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## 2. [ss] Re: Laser or Spread Specrum

From: Jeff King <jeff@aerodata.net>
Date: Sat, 01 Dec 2001 02:33:12 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-49478-2001.12.01-02.01.56--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Jeff King wrote:

> Just about any 802.11b card with a modest gain antenna should work here.
> Some
> of them even claim 1500 feet (~<500meters) out of the box with stock
> antennas,
> so with some gain antennas it should be rock solid.

As a follow-up, here are some interesting articles on doing 802.11b links:

http://www.pbs.org/cringely/pulpit/pulpit20010628.html
http://www.pbs.org/cringely/pulpit/pulpit20010712.html

-Jeff wb8wka

|------------------------------------------------------------------------|
| Jeff King   248-471-1787  F 248-471-0279 e-mail: jeff@aerodata.net      |
|                                                                        |
| "They that give up essential liberty to obtain a little temporary safety|
| deserve neither liberty nor safety."  -- Benjamin Franklin, 1759        |
|------------------------------------------------------------------------|

---
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## 3. Your confirmation is needed (ok 6751)

From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Wed, 05 Dec 2001 18:06:44 -0600
To: lyris.ss@tapr.org
Message-ID: <LYR6751-50383-2001.12.05-18.06.44--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Your email address 'lyris.ss@tapr.org' has been submitted to be
unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be
unsubscribed.

To confirm that you do want to unsubscribe, reply to this message so that
the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to
unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the
mailing list.

---

Return-Path: <none_reply@wseas.org>
Received: from ns.snd.edu.gr ([194.219.139.3]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Wed, 05 Dec 2001 18:06:38 -0600
Received: from wseas.org (whoknows.snd.edu.gr [194.219.139.198] (may be forged)) by ns.snd.edu.gr
(8.8.8/SCO5) with SMTP id BAA20302 for <leave-ss-6751t@lists.tapr.org>; Thu, 6 Dec 2001 01:31:13 +0200
(HELLAS)
Message-Id: <200112052331.BAA20302@ns.snd.edu.gr>
From: "WSEAS NEWSLETTER" <none_reply@wseas.org>
To: ss-request
Sender: "WSEAS NEWSLETTER" <none_reply@wseas.org>
Mime-Version: 1.0
Content-Type: text/plain; charset="ISO-8859-1"
Date: Thu, 6 Dec 2001 01:23:42 +0200
X-Priority: 1 (Highest)
Content-Transfer-Encoding: 8bit
subject:

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <none_reply@wseas.org>
Received: from ns.snd.edu.gr ([194.219.139.3]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Wed, 05 Dec 2001 18:06:38 -0600
Received: from wseas.org (whoknows.snd.edu.gr [194.219.139.198] (may be forged)) by ns.snd.edu.gr
(8.8.8/SCO5) with SMTP id BAA20302 for <leave-ss-6751t@lists.tapr.org>; Thu, 6 Dec 2001 01:31:13 +0200
(HELLAS)
Message-Id: <200112052331.BAA20302@ns.snd.edu.gr>
From: "WSEAS NEWSLETTER" <none_reply@wseas.org>
To: <leave-ss-6751t@lists.tapr.org>
Sender: "WSEAS NEWSLETTER" <none_reply@wseas.org>
Mime-Version: 1.0
Content-Type: text/plain; charset="ISO-8859-1"
Date: Thu, 6 Dec 2001 01:23:42 +0200
X-Priority: 1 (Highest)
Content-Transfer-Encoding: 8bit

Dear WSEAS Newsletters Recipients,

For you (and for all WSEAS members), we PROLONG the deadline for
paper submission for:
3rd WSEAS Int.Conf. on NEURAL NETWORKS AND APPLICATIONS
3rd WSEAS Int.Conf. on FUZZY SETS AND FUZZY SYSTEMS
3rd WSEAS Int.Conf. on EVOLUTIONARY COMPUTATION
(Interlaken, Switzerland, Febr.11-14, 2002)
UNTIL: DECEMBER 15, 2001.
We also prolonged the deadline for early registration.

Also, we remind that the deadline for
2nd WSEAS Int.C.on MEASUREMENT, CONTROL, CIRCUITS AND SYSTEMS
2nd WSEAS Int.C.on INFORMATION SCIENCE AND APPLICATIONS
2nd WSEAS Int.C.on SOFT COMPUTING, OPTIMIZATION, SIMULATION AND

MANUFACTURING SYSTEMS
4th WSEAS Int.C.on MATHEMATICS AND COMPUTERS IN PHYSICS
4th WSEAS Int.C.on MECHANICAL ENGINEERING MULTICONFERENCE
(Cancun, Mexico, May 12-16, 2002)
expires on DECEM.20, 2001

All the papers will be published in the Proceedings and in the Luxurious
post-conf. books
as well as a great number of them in: WSEAS Transactions on Circuits,
WSEAS Transactions on Systems, WSEAS Transactions on Computers,
WSEAS Transactions on Mathematics and WSEAS Transactions on Communications

More details: www.wseas.org/Calendar.htm

Prof. K.Papanikolaou
------------------
How to unsubscribe: www.wseas.org

## 4. [ss] Help wanted for a maths question...

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Sun, 23 Dec 2001 20:40:39 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-53199-2001.12.23-04.14.27--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

G'Day

This is a bit off topic, but I am attempting to decode a protocol, and I
am not getting anywhere on decoding the checksum. I have been able to
decode just about everything except for the checksum. I do not know of
any software that can help me with this... I am hoping someone will have
some idea about some software or will look at the data and just know :-)
I have a lot more data to go with this.

I have worked out the last column is a checksum.

04 01 01 04 AA F0
04 01 01 05 71 2A
04 01 01 06 38 60
04 01 01 09 54 03
04 01 01 0A 1B 4F
04 01 01 0A E2 B6
04 01 01 0B A9 FC
04 01 01 0D 37 64
04 01 01 0D FE AD
04 01 01 0F 8C DD
05 00 17 80 00 c8
05 00 17 20 00 68

I would appreciate any help anyone could give.

Darryl

---------
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au for domain names

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 5. [ss] Re: Help wanted for a maths question...

From: "jeff millar" <jeff@wa1hco.mv.com>
Date: Sun, 23 Dec 2001 09:08:24 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-53211-2001.12.23-08.40.29--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

a little context please...

jeff, wa1hco

----- Original Message -----
From: "Darryl Smith" <Darryl@radio-active.net.au>
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Sent: Sunday, December 23, 2001 4:40 AM

Subject: [ss] Help wanted for a maths question...

> G'Day
>
> This is a bit off topic, but I am attempting to decode a protocol, and I
> am not getting anywhere on decoding the checksum. I have been able to
> decode just about everything except for the checksum. I do not know of
> any software that can help me with this... I am hoping someone will have
> some idea about some software or will look at the data and just know :-)
> I have a lot more data to go with this.
>
> I have worked out the last column is a checksum.
>
> 04 01 01 04 AA F0
> 04 01 01 05 71 2A
> 04 01 01 06 38 60
> 04 01 01 09 54 03
> 04 01 01 0A 1B 4F
> 04 01 01 0A E2 B6
> 04 01 01 0B A9 FC
> 04 01 01 0D 37 64
> 04 01 01 0D FE AD
> 04 01 01 0F 8C DD
> 05 00 17 80 00 c8
> 05 00 17 20 00 68
>
> I would appreciate any help anyone could give.
>
> Darryl
>
> ---------
> Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
> Mobile Number 0412 929 634 [+61 4 12 929 634 International]
> Darryl@radio-active.net.au | www.radio-active.net.au for domain names
>
>
>
> ---
> You are currently subscribed to ss as: JEFF@WA1HCO.MV.COM
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 6. [ss] RE: Help wanted for a maths question...

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Mon, 24 Dec 2001 16:50:18 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-53291-2001.12.24-00.24.05--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

G'Day

>       From: "jeff millar" <jeff@wa1hco.mv.com>
>       a little context please...
>
>       jeff, wa1hco

The data comes from an RS-232 stream between a sony video camera and an
RS-232 controller. The RS-232 was running on inverted polarity, and when
you do things on the controller the camera does this and responds. I
would guess that the checksum is some type of cyclic code, but I cannot
work it out.

I would imagine that someone has software to work out checksum codes,
but I do not even know where to look.

Many thanks

Darryl

---------
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]

Darryl@radio-active.net.au | www.radio-active.net.au for domain names

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 7. [ss] SS IMPLEMENTATION

From: "JAIRO ROBERTO BASTIDAS E" <JAIRO.BASTIDAS@SIEMENS.COM.CO>
Date: Mon, 24 Dec 2001 10:12:27
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-53318-2001.12.24-10.41.18--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

GOOD DAY,

I'M INTERESTED IN KNOWING HOW TO DO THE SS IMPLEMENTATION AND HOW TO CHOOSE
THE WORK FREQUENCY.

THANK YOU FOR YOUR TIME AND HELP.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 8. [ss] RE: Help wanted for a maths question

From: "Doug Gibbs" <DGIBBS@IX.NETCOM.COM>
Date: Tue, 25 Dec 2001 10:2:10
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-53412-2001.12.25-10.31.01--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Darryl,

You may want to investigate the Sony S-Link and/or Control A1 serial
encoding formats.  You can find detailed descriptions of these formats by
searching the Internet for them.

Regards,
Doug Gibbs
W8NFT

Original Message:

Subject: RE: Help wanted for a maths question...
From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Mon, 24 Dec 2001 16:50:18 +1100
X-Message-Number: 1

G'Day

> From: "jeff millar" <jeff@wa1hco.mv.com>

> a little context please...
>
> jeff, wa1hco

The data comes from an RS-232 stream between a sony video camera and an
RS-232 controller. The RS-232 was running on inverted polarity, and when
you do things on the controller the camera does this and responds. I
would guess that the checksum is some type of cyclic code, but I cannot
work it out.

I would imagine that someone has software to work out checksum codes,
but I do not even know where to look.

Many thanks

Darryl

---------
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au for domain names

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 9. [ss] 900 MHz FHSS Radio

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Fri, 28 Dec 2001 14:39:18 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: netsig@lists.tapr.org
Message-ID: <LYR6751-53902-2001.12.28-15.08.24--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

From: http://www.tapr.org/tapr/html/taprfhss.html
>October 1999
>TAPR has signed an agreement with the Dandin Group to take the TAPR
>design from its current state into production which TAPR has access to
>production for sale back into the amateur radio community.

Here it sits:
http://www.dandin.com/tdr900.html
>
>The TDR-900 is being developed for both commercial and amateur radio
>deployment. Dandin will be handling the commercial interests in the
>radio, with TAPR handling the amateur radio service.
>
>The system has been designed so that the digital and RF board are
>separate units. Additional bands for the radio are in development.
>
>More information on technology availability and licensing will be
>available once the technology transfer between TAPR and Dandin is
>complete.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 10. [ss] Re: 900 MHz FHSS Radio

From: Ryan Wilkins <ryan@deadfrog.net>
Date: Fri, 28 Dec 2001 17:13:22 -0500 (EST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-53908-2001.12.28-16.42.24--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

So does this mean it's actually moving forward?  Or is this just old news?

Ryan (N8YHV)

On Fri, 28 Dec 2001, Steve Lampereur wrote:

> Here it sits:
> http://www.dandin.com/tdr900.html

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 11. [ss] 900 MHz DSSSS Idea

From: JL <multiplx@gbonline.com>
Date: Fri, 28 Dec 2001 23:13:22 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-53974-2001.12.28-22.39.58--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> From: http://www.tapr.org/tapr/html/taprfhss.html
> >October 1999
> >TAPR has signed an agreement with the Dandin Group to take the TAPR
> >design from its current state into production which TAPR has access
to
> >production for sale back into the amateur radio community.
>
> Here it sits:
> http://www.dandin.com/tdr900.html

  Homebrew 2.4 GHz to 916 MHz transverter for 802.11b wireless LAN

devices:

  http://www.qsl.net/n9zia/2400-to-900.html

  Looks more promising...

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 12. [ss] Re: 900 MHz DSSSS Idea

From: tlang@freeway.apana.org.au (Tony Langdon)
Date: 29 Dec 01 17:42:42 +1000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-54023-2001.12.29-01.48.21--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello JL!

28 Dec 01 23:13, you wrote to TAPR Spread Spectrum Special Interest Group:

 J>   Homebrew 2.4 GHz to 916 MHz transverter for 802.11b wireless LAN
 J> devices:
 J>
 J>   http://www.qsl.net/n9zia/2400-to-900.html

Hmm, nice idea, would like to have it on another band though, like 1200 MHz (we
don't have 900 MHz here :( ).

Tony, VK3JED

.. @C:\BWAVE\TAGLINES.BW
--
|Fidonet:  Tony Langdon 3:633/284.18
|Internet: tlang@freeway.apana.org.au
|
| Standard disclaimer: The views of this user are strictly his own.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 13. [ss] Re: 900 MHz FHSS Radio

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Sat, 29 Dec 2001 15:44:47 -0600 (CST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-54085-2001.12.29-16.13.24--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Ryan,
No it dosen't mean its moving forward.  This is old.  I just wanted to
remind everyone in a few days it will be 2002.  5 years on this thing.  I
also noticed that there isn't a link to the Dandin site where it is
actually descibed decently.  So I thought I'd post a little reminder.

Also I don't know if anyone noticed that the TDR-900 as it's called
appears to be dual marketed.  For ham radio and commerical use.  I wonder
how that will work assuming a commerical version would still hop 902-926.
Won't that be like merticom all over again?  Where we have commercial
users also using the band causinmg the noise floor to rise.  I heard some
one complain the 900 MHz band was trashed because of Merticom before.

Anyway I have to agree with my friend that transverting 2.4 GHz stuff to
900 looks more promising.  And I'd like to say thanks right here for all
his hard work with all the gbppr.org documented projects.

>So does this mean it's actually moving forward? Or is this just old news?
>Ryan (N8YHV)

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 14. [ss] Re: 900 MHz FHSS Radio

From: Jeff King <jeff@aerodata.net>
Date: Sat, 29 Dec 2001 23:15:34 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-54113-2001.12.29-22.44.34--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve Lampereur wrote:

> Ryan,
> No it dosen't mean its moving forward.  This is old.  I just wanted to
> remind everyone in a few days it will be 2002.  5 years on this thing.  I
> also noticed that there isn't a link to the Dandin site where it is
> actually descibed decently.  So I thought I'd post a little reminder.

Steve:

I got a update on this at the DCC. Not sure on
the state of Dandin... I guess they got hit with the internet crash like everyone
else although I see the web site is still going. I did notice the last news item is
from mid 2000. But Dwayne is on this list so he can chime in if he wants.

The shift seems to have moved to the Texas Packet Radio Society on the SS radio...
or at least that seems to be the site the newest data gets posted to. Their website
is: http://www.tprs.org  and the latest update is at:
http://www.tprs.org/publications/qr_arch/Aug2001.pdf

TAPR also reports on the progress of the project. See: http://www.tapr.org/PSR/

> Also I don't know if anyone noticed that the TDR-900 as it's called
> appears to be dual marketed.  For ham radio and commerical use.

And as I said privately recently to some TAPR BOD members, I think there is
a real commercial need for such a product. A unfilled market nitch so to
speak with only Freewave coming close on the RF side. In the U.S. the rural
internet market is begging for such a product.

> I wonder
> how that will work assuming a commerical version would still hop 902-926.
> Won't that be like merticom all over again?

No.... the problem you had (as well as myself and others) was MetriCom's
business philosophy.... basically a bull in a china shop. While technically
they (or at least their lawyers) could say they were in compliance with
Part 15, they certainly where not in compliance with the spirit of those same
rules. Distributed anarchy being part of the basic assumption in the part 15
rules.

BTW, I do need to remind everyone that was upset with Metricom that our very
own ARRL was hand in hand with them in opposing sensible spread spectrum in
amateur radio. FYI, TAPR opposed the ARRL and MetriCom's efforts to hobble spread
spectrum experimentation under part 97.

> Anyway I have to agree with my friend that transverting 2.4 GHz stuff to
> 900 looks more promising.

Yes, but that is just a band. You still have the poor process gain to deal with.
The market niche I was referring to was a robust "ISDN class" frequency hopping
network aware 900mhz radio that is affordable. No-one yet has addressed this other
then FreeWave, but their radios are basically null modems and don't have a tcp/ip
stack in them.

(which is not to say the project your friend did was not needed... just pointing
out that low process gain DSSS at 2.4ghz is still low process gain DSSS at 900mhz).

> And I'd like to say thanks right here for all
> his hard work with all the gbppr.org documented projects.

And I'll second this. I've mentioned this site to the PSR editor so hopefully it
will get some ink in future PSR's. I think it is one of the best radio hacker
sites on the net.  I think if you or these folks did a presentation at one of the

coming DCC's or Dayton, you'd get quite a bit of interest. I do know a number of
folks on the APRSSIG have been playing with this technology.

73

Jeff wb8wka

|------------------------------------------------------------------------|
| Jeff King   248-471-1787  F 248-471-0279 e-mail: jeff@aerodata.net      |
|                                                                        |
| "They that give up essential liberty to obtain a little temporary safety|
| deserve neither liberty nor safety."  -- Benjamin Franklin, 1759        |
|------------------------------------------------------------------------|

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 15. [ss] RE: ss digest: December 29, 2001

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Mon, 31 Dec 2001 16:48:49 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-54279-2001.12.31-00.24.02--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Tony and Others

>Hello JL!
>28 Dec 01 23:13, you wrote to TAPR Spread Spectrum Special Interest
>Group:
>
> J>   Homebrew 2.4 GHz to 916 MHz transverter for 802.11b wireless LAN
> J> devices:
> J>
> J>   http://www.qsl.net/n9zia/2400-to-900.html
>
>Hmm, nice idea, would like to have it on another band though, like 1200

>MHz (we don't have 900 MHz here :( ). Tony, VK3JED

As far as I can remember 1/2 of the USA ISM band is usable in Oz - I
think 915-928 MHz is, with 902-905 MHz being used by a few million
mobile phones. However I might be wrong... www.aca.gov.au should be able
to give you accurate information.

As for a 2400 to 900 MHz transverter, I would not go down this road.
There are better engineering  ways to go... Common PCMCIA network cards
(such as the PCMCIA ones from D-Link) use a Prism 2.5 chipset from
Intersil. (http://www.intersil.com/design/prism/wirelessb.asp). This
chipset does Spread Spectrum and contains all the RF. The important
parts are the Intersil FN4862 which is a power detector and power
amplifier, and ISL3685, which is a 2.4GHz RFIF Converter and
Synthesizer.

As far as I can tell the ISL3685 has the following functions
        * Receive Preamp - With high and low gain modes
        * Transmitter Power Amplifier (probably not much gain though)
        * A PLL module that connects to an external VCO (ENFVZ5F81 in
the reference design)
                Serial frequency control
                Maybe switching between TX and RX PLL settings
        * Differential Mixer for received signal
        * Differemtial Mixer for transmit signal

>From my memory of the MiniCircuits databook I think that most of these
functions are available as modules that can be wired together without
too much effort for any frequency. The issue I see is the PLL control,
although a cheap and small FPGA should be able to correct for any
differences in PLL control.

I forced I suspect that even I could actually come up with a working
design - on 900 MHz, 1200 MHz, 440 MHz, 10 GHz, 24 GHz, 880 nM,
Whatever. And for all I know there are almost identical devices from
Intersil and others on all these frequencies.

Darryl

---
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au for domain names

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 16. [ss] RE: ss digest: December 29, 2001

From: tlang@freeway.apana.org.au (Tony Langdon)
Date: 01 Jan 02 14:32:46 +1000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-54409-2001.12.31-22.08.49--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello Darryl!

31 Dec 01 16:48, you wrote to TAPR Spread Spectrum Special Interest Group:

 DS> As far as I can remember 1/2 of the USA ISM band is usable in Oz - I
 DS> think 915-928 MHz is, with 902-905 MHz being used by a few million
 DS> mobile phones. However I might be wrong... www.aca.gov.au should be
 DS> able to give you accurate information.

True, but using them under ISM conditions sort of undermines the whole idea.
Oh, and there's a slight legal problem of using non type approved (i.e. home
brew) equipment under a class licence...  If only they did here what the did in
ZL and turned the ISM band over to us amateurs to share with the unlicenced
devices in a similar bashion to 2.4 GHz. :)

 DS> This chipset does Spread Spectrum and contains all the RF. The
 DS> important parts are the Intersil FN4862 which is a power detector and
 DS> power amplifier, and ISL3685, which is a 2.4GHz RFIF Converter
 DS> and Synthesizer.

As long as you can keep it within the amateur band (the ISM band is a bit
wider), but then again, the channels are 22 MHz wide, if I recall, so it
shouldn't be too hard.

 DS> From my memory of the MiniCircuits databook I think that most of these
 DS> functions are available as modules that can be wired together without
 DS> too much effort for any frequency. The issue I see is the PLL control,
 DS> although a cheap and small FPGA should be able to correct for any
 DS> differences in PLL control.
 DS>
 DS> I forced I suspect that even I could actually come up with a working
 DS> design - on 900 MHz, 1200 MHz, 440 MHz, 10 GHz, 24 GHz, 880 nM,
 DS> Whatever. And for all I know there are almost identical devices from
 DS> Intersil and others on all these frequencies.

Now this would be interesting.  Unfortunately, I'm not that up with RF design.
I'm going to be more useful when there's enough infrastructure to begin
throwing TCP/IP around. :-)

Tony, VK3JED

.. @C:\BWAVE\TAGLINES.BW
--
|Fidonet:  Tony Langdon 3:633/284.18
|Internet: tlang@freeway.apana.org.au
|
| Standard disclaimer: The views of this user are strictly his own.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

# January 2002

Original source file: ss.0201
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/ss.0201

## 1. [ss] Re: 900 MHz FHSS Radio

From: "Chris Anderson" <Chris_Anderson@grayhill.com>
Date: Wed, 2 Jan 2002 09:54:45 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-54672-2002.01.02-10.26.56--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Um, forgive my ignorance but, what exactly is the goal of transverting from 2.4
to 900? Is it to get ethernet packets over 900? Or to get direct sequence?

Also, as a gentelman noted earlier, why not use 1.2GHz? 1.2 is under-utilized in
many areas.
Also, is the goal to move ethernet packets or to just move data? One of my
gripes with 802.11 implimentations is they usually have quite poor RX
sensitivity. Wouldn't a 128kb or 256kb system with beter RX make more sense?

Chris Anderson
KA9UQO

Steve Lampereur <kb9mwr@yahoo.com> on 12/29/2001 03:44:47 PM

Please respond to "TAPR Spread Spectrum Special Interest Group"
<ss@lists.tapr.org>

To: "TAPR Spread Spectrum Special Interest Group"
<ss@lists.tapr.org>

cc: (bcc: Chris Anderson/NPD/GHI)

Subject: [ss] Re: 900 MHz FHSS Radio

Ryan,
No it dosen't mean its moving forward. This is old. I just wanted to
remind everyone in a few days it will be 2002. 5 years on this thing. I
also noticed that there isn't a link to the Dandin site where it is
actually descibed decently. So I thought I'd post a little reminder.

Also I don't know if anyone noticed that the TDR-900 as it's called
appears to be dual marketed. For ham radio and commerical use. I wonder
how that will work assuming a commerical version would still hop 902-926.
Won't that be like merticom all over again? Where we have commercial
users also using the band causinmg the noise floor to rise. I heard some
one complain the 900 MHz band was trashed because of Merticom before.

Anyway I have to agree with my friend that transverting 2.4 GHz stuff to
900 looks more promising. And I'd like to say thanks right here for all
his hard work with all the gbppr.org documented projects.

>So does this mean it's actually moving forward? Or is this just old news?
>Ryan (N8YHV)

---
You are currently subscribed to ss as: chris_anderson@grayhill.com
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 2. [ss] Re: 900 MHz FHSS Radio

From: "Chris Anderson" <Chris_Anderson@grayhill.com>
Date: Wed, 2 Jan 2002 10:00:02 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-54673-2002.01.02-10.32.12--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Jeff,

Are you saying you'd like to see a part 247 product with those features or
a radio for amatures with those features?

Yes, but that is just a band. You still have the poor process gain to deal with.
The market niche I was referring to was a robust "ISDN class" frequency hopping
network aware 900mhz radio that is affordable. No-one yet has addressed this
other
then FreeWave, but their radios are basically null modems and don't have a
tcp/ip
stack in them.

(which is not to say the project your friend did was not needed... just pointing
out that low process gain DSSS at 2.4ghz is still low process gain DSSS at
900mhz).

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 3. [ss] Re: 900 MHz FHSS Radio

From: Jeff King <jeff@aerodata.net>
Date: Wed, 02 Jan 2002 13:14:01 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-54686-2002.01.02-12.43.15--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Chris Anderson wrote:

> Are you saying you'd like to see a part 247 product with those features or
> a radio for amatures with those features?

I'm saying there is a unaddressed market nitche for a Part 15 SS radio with those
features. I don't think such a radio could be commercially successful based on just the
"ham" (Part 97) market but combining the two markets (Part 15 with some ham sales)
then it might make a go of it.

-Jeff

> Yes, but that is just a band. You still have the poor process gain to deal with.
> The market niche I was referring to was a robust "ISDN class" frequency hopping
> network aware 900mhz radio that is affordable. No-one yet has addressed this
> other
> then FreeWave, but their radios are basically null modems and don't have a
> tcp/ip
> stack in them.

```
|------------------------------------------------------------------------|
| Jeff King   248-471-1787  F 248-471-0279 e-mail: jeff@aerodata.net     |
|                                                                        |
| "They that give up essential liberty to obtain a little temporary safety|
| deserve neither liberty nor safety."  -- Benjamin Franklin, 1759       |
|------------------------------------------------------------------------|



---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
```

## 4. [ss] Re: 900 MHz FHSS Radio

From: "Chris Anderson" <Chris_Anderson@grayhill.com>
Date: Wed, 2 Jan 2002 14:42:37 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-54701-2002.01.02-15.14.45--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Ahh, yea my experiance is that radio's of the feature set you mentioned tend to be more expensive than most hams would be willing to pay. I usually see things in the $750 range as a starting price for serial based radios and then ethernet ports seem to run that up about 50%. Most of the hams I've talked to seem to object to the cost.

Jeff King <jeff@aerodata.net> on 01/02/2002 12:14:01 PM

Please respond to "TAPR Spread Spectrum Special Interest Group"
<ss@lists.tapr.org>

To: "TAPR Spread Spectrum Special Interest Group"
<ss@lists.tapr.org>

cc: (bcc: Chris Anderson/NPD/GHI)

Subject: [ss] Re: 900 MHz FHSS Radio

Chris Anderson wrote:

> Are you saying you'd like to see a part 247 product with those features or
> a radio for amatures with those features?

I'm saying there is a unaddressed market nitche for a Part 15 SS radio with those
features. I don't think such a radio could be commercially successful based on just the
"ham" (Part 97) market but combining the two markets (Part 15 with some ham sales)
then it might make a go of it.

-Jeff

> Yes, but that is just a band. You still have the poor process gain to deal
with.
> The market niche I was referring to was a robust "ISDN class" frequency
hopping
> network aware 900mhz radio that is affordable. No-one yet has addressed this
> other
> then FreeWave, but their radios are basically null modems and don't have a
> tcp/ip
> stack in them.


|---------------------------------------------------------------------------|
| Jeff King   248-471-1787  F 248-471-0279 e-mail: jeff@aerodata.net        |
|                                                                           |
| "They that give up essential liberty to obtain a little temporary safety|
| deserve neither liberty nor safety."  -- Benjamin Franklin, 1759          |
|---------------------------------------------------------------------------|



---
You are currently subscribed to ss as: chris_anderson@grayhill.com
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org


## 5. [ss] Re: 900 MHz FHSS Radio


From: Jeff King <jeff@aerodata.net>


Date: Wed, 02 Jan 2002 17:57:56 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-54717-2002.01.02-17.27.23--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain


Chris Anderson wrote:

> Ahh, yea my experiance is that radio's of the feature set you mentioned tend to
> be more expensive than most hams would be willing to pay. I usually see things
> in the $750 range as a starting price for serial based radios and then ethernet
> ports seem to run that up about 50%. Most of the hams I've talked to seem to
> object to the cost.

Cost? No, don't think it is cost, these guys drop $2000+ on HF radios. It the knobs, bells and star trek factor. Most hams think of spread spectrum as "just another mode" when it, and frequency agile/intelligent radios, are really a whole new paradigm that is being fought by the powers at be, be it our own ARRL or giants like Motorola. I had hoped the massive die off would change the hobby, (and it did) but not enough yet for my liking. But that is yet another holy war.

In sufficient volume I can't see why a radio that could perform at the level we discussed couldn't be in the 200-300 dollar range.... yet it would still lack the bell and whistle factor. It would require a ham purchaser who is focused on a goal and wants to achieve that goal. The SS radio is not going to "talk" to him or attract Klingon chicks at the next Star Trek convention like some of the ham HT's on the market are designed to do.

Case in point is the FreeWave radio.... it is based on the 68HC11 core and is a basic GMSK frequency hopper on 900mhz. One off price on the board alone is $700 and it quickly drops to about $450 in small qty's. Yet I'd be quite suprised if the BOM on the board itself was over $100.  And I am already seeing 900mhz hoppers (from other companies) in the $100ea range in 1-10 qtys.  (David Hughes has made a number of postings on them on the wireless internet list).

I do think there is a market niche, but someone is going to have to move a bit faster if they want it. Perfection is nice but in the immortal words of a marketing guy I have long forgotten,  sometimes you just have to SHIP IT!

73

-Jeff

```
|------------------------------------------------------------------------|
| Jeff King   248-471-1787  F 248-471-0279 e-mail: jeff@aerodata.net     |
|                                                                        |
| "They that give up essential liberty to obtain a little temporary safety|
| deserve neither liberty nor safety."  -- Benjamin Franklin, 1759       |
|------------------------------------------------------------------------|



---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
```

## 6. [ss] Re: 900 MHz FHSS Radio

From: JL <multiplx@gbonline.com>
Date: Wed, 02 Jan 2002 18:54:15 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-54744-2002.01.02-19.23.30--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

```
>Um, forgive my ignorance but, what exactly is the goal of transverting
from 2.4
>to 900? Is it to get ethernet packets over 900? Or to get direct
sequence?

  1.)  To experiment with non line-of-sight wireless data
communications.

  2.)  Digi-Key sells 915 MHz bandpass filters for $13 US.

  3.)  7-element 800-900 MHz Yagi antennas cost around $20 US.   (Fair
Radio)

  4.)  To actually use an under-utilized amateur radio band.

  5.)  Linear 900 MHz power amplifier modules cost $30 US.

  6.)  You can utilize the heatsink/mounting pad from old cellular
phones to mount your
         new power amplifier module.

  7.)  There is no point in re-inventing the wheel when I can purchase
the vast majority of
         wireless data link at the local Best Buy for $100.

  8.)  To give amateur radio operators something to experiment with
while waiting for
         TAPR's 900 MHz FHSS radio.

   and on and on ...

>Also, as a gentelman noted earlier, why not use 1.2GHz? 1.2 is
under-utilized in
>many areas.

  So do it.

  It's a reference only design anyway.

  This isn't rocket science, replace the MD003 with a MD004, replace the
PF0031 with a M67715,
   replace the 1.536 GHz LO with a 1.200 GHz LO.  Everything else stays
the same.

>Also, is the goal to move ethernet packets or to just move data? One of
my
>gripes with 802.11 implimentations is they usually have quite poor RX
>sensitivity. Wouldn't a 128kb or 256kb system with beter RX make more
sense?

  So help redesign the front-end on the PRISM II chipset.  Be sure to
study the past work
  of Shannon and Costas.



---
```

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## 7. [ss] Re: 900 MHz FHSS Radio

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Thu, 3 Jan 2002 12:48:07 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-54751-2002.01.02-20.17.30--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> >Also, as a gentelman noted earlier, why not use 1.2GHz? 1.2 is
> under-utilized in
> >many areas.
>
>  So do it.

Given that 900 MHz designs are useless on this side of the world (there's no amateur band on that frequency here), this might be something worth trying. Unfortunately, my RF isn't up to that sort of thing... But if someone gets the design worked out, I'd certainly have a go at building it for 1200 MHz.

---
Outgoing mail has been scanned for viruses
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.310 / Virus Database: 171 - Release Date: 19-Dec-01

This correspondence is for the named person's use only. It may contain confidential or legally privileged information or both. No confidentiality or privilege is waived or lost by any mistransmission. If you receive this correspondence in error, please immediately delete it from your system and notify the sender. You must not disclose, copy or rely on any part of this correspondence if you are not the intended recipient.

Any opinions expressed in this message are those of the individual sender.

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## 8. [ss] Sensible Amateur Radio RF networking (fwd)

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Thu, 3 Jan 2002 12:41:45 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-54915-2002.01.03-13.11.08--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I sent this to netsig not to long ago, I should of sent it here also.

----Forwarded Message----
Here are my top reasons for using off the shelf Part 15 wireless ethernet devices for Amateur Radio RF networking:

1.) They are fast, speeds in the 1-11 Mega-bit ranges.
2.) They already opperate on frequencies allocated to amateur radio.
3.) As is, under Part 15 they have proven to work for links 5-20 miles
4.) They are cheaper than a traditional ham packet setup.
5.) They use a proven sucessful network protocol, TCPIP.
6.) They use a modern modulation technique called Spread Spectrum

7). It will probably take decades for hams to come up with anything more
    well suited for high speed RF networking. (i.e. TAPR 900 MHz radio)

See for yourself:

1.) All 2.4 GHz DSSS 802.11 is 11 Mbps with slower fall back rates.
http://hydra.carleton.ca/info/ (Pay no attention to the outdated prices or advertised ranges)

2.) You have 3 bands to choose from 900 MHz, 2.4 & 5.7 GHz. (No re-rocking, reprogramming needed!) Don't like microwave propagation? Legally to do any significant speeds you really need to make use of the 900 MHz bands and up. (if we fail to use these bands we will eventually loose the allocations)

Speed and or bandwidth constraints for data [97.307(f)(1)]

| Frequency Range | Speed Limit for Specified Codes | Maximum Bandwidth for Unspecified Codes |
|---|---|---|

```
50.1 - 148 MHz            19.6 kilobauds        20 kHz
222 - 450 MHz             56 kilobauds          100 kHz
Above 902 MHz             No speed limit        No bandwidth limit


3.) Review what commercial ISP's have been doing.
http://isp-lists.isp-planet.com/isp-wireless/archives/
http://www.oreillynet.com/pub/a/wireless/2001/05/03/longshot.html

4.)
-Typical 1200/9600 Ham setup-
Paccomm Tiny 2 $150 + MFJ data radio $120 + 100ft RG-8/9913 $55 + Decent
Antenna  $60 = TOTAL: $385

-Typical Wireless ethernet setup-
WLAN NIC/AP $150 + 100ft LMR-400 $65 +  24dB Parabolic  $70 =  TOTAL: $285

Note:
One could use AXIP to can carry existing AX.25 traffic over a wireless
ethernet link.

Find out more:
Using Part 15 Wireless Ethernet Devices For Amateur Radio:
http://www.qsl.net/kb9mwr/projects/wireless/plan.html

Green Bay Professional Packet Radio:
http://www.gbppr.org
(homebrew bi-directional amplifier designs and path-loss calculators)
A group that actually wants amateur packet radio to evolve sometime this
century.


---
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```

## 9. [ss] Re: 900 MHz FHSS Radio

```
From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Thu, 3 Jan 2002 13:01:13 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-54923-2002.01.03-13.30.36--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain
```

```
I wasn't going to say anything more but..

(Don't get the wrong impression I have no love affair with the ARRL, but)

>BTW, I do need to remind everyone that was upset with Metricom that our
>very own ARRL was hand in hand with them in opposing sensible spread
>spectrum in amateur radio. FYI, TAPR opposed the ARRL and MetriCom's
>efforts to hobble spread spectrum experimentation under part 97.

How does that differ from marketing a product for both ham & commerical
use?  As far as I am concerned they are both really low blows to ham
radio.

I will agree there is real commercial need for such a product too. But
if I was an organization that is supposed to be supporting ham radio,
I wouldn't offer (especially at 1 watt) it to the commercial world.

I'd like to hope it won't be like Merticom all over again but fact is,
after you sell it to them you have little control over what they do
with it and how they use it.  I'm sure any local ISP could do the same
kind of damage that Merticom did to the 900 band.  Just maybe not
nationwide.



---
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```

## 10. [ss] Re: 900 MHz FHSS Radio

```
From: Jeff King <jeff@aerodata.net>
Date: Thu, 03 Jan 2002 14:58:49 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-54928-2002.01.03-14.28.22--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain
```

Steve Lampereur wrote:

> I wasn't going to say anything more but..
>
> (Don't get the wrong impression I have no love affair with the ARRL, but)

>>BTW, I do need to remind everyone that was upset with Metricom that our
>>very own ARRL was hand in hand with them in opposing sensible spread
>>spectrum in amateur radio. FYI, TAPR opposed the ARRL and MetriCom's
>>efforts to hobble spread spectrum experimentation under part 97.

> How does that differ from marketing a product for both ham & commerical
> use? As far as I am concerned they are both really low blows to ham
> radio.

Your trying to roll two completely different things into one issue. They
are not one issue. The ARRL's only responsibility to amateur radio is the
interest of its members. While the ARRL did sponsor the initial spread spectrum
RFPRM, they insisted on the automatic power control requirements for levels above
1 watt, even though Phil Karn and TAPR withdrew their support of same. What this
in effect did was put amateur radio spread spectrum in the same class as Part
15 SS as none of the existing Part 15 radios have "hooks" in them to provide
automatic power control via a external amplifier.

> I will agree there is real commercial need for such a product too. But
> if I was an organization that is supposed to be supporting ham radio,
> I wouldn't offer (especially at 1 watt) it to the commercial world.

You neglected to quote the majority of my message in which I gave the reasons
such a product would need to be dual marketed. I don't think such a product into
itself can be commercially successful in just the ham market. Please read the
rest of my earlier message for the reasons I think so, and comment on them if
you still think I am wrong. And in any case, once the product exists it can be
marketed with a dual set of hop codes so differing users can stay out of each
other's way. But the key point here is the product has to exist first.

> I'd like to hope it won't be like Merticom all over again but fact is,
> after you sell it to them you have little control over what they do
> with it and how they use it. I'm sure any local ISP could do the same
> kind of damage that Merticom did to the 900 band. Just maybe not
> nationwide.

Damage? How would they do damage? The ISP's that would use such a product by
and large would be in rural areas ill served by any of the major telco's. No DSL,
no cable modems and 56K modem lines that you are lucky to get 24kbaud out of. And
in case you haven't noticed, there is already a thriving market for 2.4ghz WISP's
(also a ISM/ham band) so the "damage" you speak of already is happening. I only know
of one documented case in which a part 15 operator caused interference to ham operations
(the Darwin Networks citation). And that is not entirely true that once you sell it you
have no control over it. If a "ham friendly" organization is marketing such a product,
the firmware can be dual personality. One for the ham operators that offers more "knobs'
and the other for the ISP's. Different hop codes also.

Or perhaps you think I am a dyed in the wool ham operator? I'm not... I am a radio
hacker first and as I said, I think their is a market niche for such a product. The fact
that it can be done under Part 15 is a advantage as far as I am concerned. The way the
rules are presently written coupled with what is COTS available gives one little advantage to
running SS under part 97.

Its not a matter of how you or I sitting in our armchairs think it should be done, it is a
matter of what makes the most business sense irregardless of who does it. That will be the
deciding factor.

Jeff wb8wka

|-----------------------------------------------------------------------|
| Jeff King   248-471-1787  F 248-471-0279 e-mail: jeff@aerodata.net     |
|                                                                       |
| "They that give up essential liberty to obtain a little temporary safety|
| deserve neither liberty nor safety."  -- Benjamin Franklin, 1759       |

|------------------------------------------------------------------------|

---
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## 11. [ss] Re: 900 MHz FHSS Radio

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Fri, 4 Jan 2002 00:10:08 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-55077-2002.01.04-00.39.32--lyris.ss#tapr.org@lists.tapr.org>
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>Your trying to roll two completely different things into one issue. They
>are not one issue. The ARRL's only responsibility to amateur radio is
>the interest of its members. While the ARRL did sponsor the initial
>spread spectrum RFPRM, they insisted on the automatic power control
>requirements for levels above 1 watt, even though Phil Karn and TAPR
>withdrew their support of same. What this in effect did was put amateur
>radio spread spectrum in the same class as Part 15 SS as none of the
>existing Part 15 radios have "hooks" in them to provide automatic power
>control via a external amplifier.

Not really.  What the ARRL did simply put; wasn't in the best interest of
ham radio.  Dual marketing a radio (potential interference) would not be
in the best interest of ham radio.  (I'm sure you can agree on that)
Unless...

>And in any case, once the product exists it can be
>marketed with a dual set of hop codes so differing users can stay out of
>each other's way. But the key point here is the product has to exist first.

>One for the ham operators that offers more "knobs' and the other for the
>ISP's. Different hop codes also.

This is what I was trying to get at (and find out)...  so there are
provisions for this, which is great.  I was worried the commercial model
would be *exactly* the same as the amateur one.  (now knowing this: I
withdraw my last message)

>Damage? How would they do damage? The ISP's that would use such a
>product by and large would be in rural areas ill served by any of the major
>telco's. No DSL, no cable modems and 56K modem lines that you are lucky to
>get 24kbaud out of. And in case you haven't noticed, there is already a
>thriving market for 2.4ghz WISP's (also a ISM/ham band) so the "damage"
>you speak of already is happening.

Sorry I should be been more specific.. "further damage".  Reason I bring
this up is I have heard "the band is trashed by the part 15 stuff.." as a
common excuse.  Dosent stop me.  But apparently is a concern for many other
hams, probably in bigger cities.

You seem to know a bit more about this thing than I do, naturally.  Maybe
you can tell me if this 900 radio will have "hooks" to provide automatic
power control via a external amplifier?  That would be cool.

By the way here are some Amps capable of automatic power control.
http://www.teletronics.com/tii/products/amplifiers/amp_900_4w.html
http://www.teletronics.com/tii/products/amplifiers/amp_24_5w.html
(Don't ask the prices, trust me you don't want to know)

---
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## 12. [ss] Re: 900 MHz FHSS Radio

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Fri, 4 Jan 2002 00:33:06 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-55080-2002.01.04-01.02.28--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>The way the rules are presently written coupled with what is COTS
>available gives one little advantage to running SS under part 97.

I hate to have to argue with this one because unfortunatly it's true.
But most hams don't want to hear this, (myself included) so...

I guess my thoughts are why not put it under Part 97, granted your
users are hams.  And they probably are if your setting up a
recreational network (and not running a porn server for some extra
income for your business).

From: http://www.qsl.net/kb9mwr/projects/wireless/pwr.html

>One of the main advantages to reclassifying your operations to Part 97
>(besides the obvious theoretical interference protection from unlicensed
>operations) may be the amount of radiated power you are allowed.
>
>As you may know Part 15 operation has a theoretical max of 100.23 Watts
>EIRP for directional antennas. And 4 Watt EIRP limit for links using
>omnidirectional antennas.
>
>Amateur Radio has never had or has any type of ERP limits. The wording
>of Part 97.311 which regulates Amateur Spread Spectrum uses the words
>"transmitter power" which imply PEP or CP not ERP. (If it said radiated
>power then ERP would be implied). Thus there are no ERP / EIRP limits
>for Part 97 operation.

>So some calculations show that the following are permissible under Part
>97:
>
>(Using the max of 1 Watt before having to incorporate automatic power
>control as per 97.311(d))
>
>With 1 W (30 dBm) into a 24 dBi parabolic = 251.2 Watts EIRP
>
>With 100 Watts PEP (the max allowed for SS using automatic power
>control) into a 24 dBi parabolic = 25,118 Watts EIRP


---
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## 13. [ss] Re: 900 MHz FHSS Radio

From: Jeff King <jeff@aerodata.net>
Date: Fri, 04 Jan 2002 01:43:06 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-55082-2002.01.04-01.12.47--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve Lampereur wrote:


> You seem to know a bit more about this thing than I do, naturally.  Maybe
> you can tell me if this 900 radio will have "hooks" to provide automatic
> power control via a external amplifier?  That would be cool.


I was talking in the abstract.... that there is a market niche for a network
aware 2X+ ISDN class 900mhz frequency hopper.


> By the way here are some Amps capable of automatic power control.
> http://www.teletronics.com/tii/products/amplifiers/amp_900_4w.html
> http://www.teletronics.com/tii/products/amplifiers/amp_24_5w.html


Actually, I believe those amps just have a TX AGC in them. For automatic power control
you would need software access to the Eb/Eo reading at the remote reciever and a
way to control the transmit output power. I believe the specific formula is spelled
out in the rule making.


> (Don't ask the prices, trust me you don't want to know)


Yeap, although there has been some downward pressure of late. Teletronics had
a surplus sale, not sure if any are left but check this out:

http://www.teletronics.com/tii/surplus.html

-Jeff

```
|------------------------------------------------------------------------|
| Jeff King   248-471-1787  F 248-471-0279 e-mail: jeff@aerodata.net     |
|                                                                        |
| "They that give up essential liberty to obtain a little temporary safety|
| deserve neither liberty nor safety."  -- Benjamin Franklin, 1759       |
|------------------------------------------------------------------------|
```

---
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## 14. [ss] Re: 900 MHz FHSS Radio

From: "Chris Anderson" <Chris_Anderson@grayhill.com>
Date: Thu, 3 Jan 2002 11:40:02 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-55084-2002.01.04-01.40.40--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

But theres another issue, such a device would likely be largly surface mount.
Since I work in the industry I have a nice stereo microscope and even reflow
tools to do that but how would the average Ham do it?

The other part is, ok ya build a radio, but the brain that runs the radio is
where 80% of the work is. And it's a lot of very 'not RF' things like embedded
system programming etc.

Wouldn't that deter a lot of people?

Tony Langdon <tlangdon@atctraining.com.au> on 01/02/2002 07:48:07 PM

Please respond to "TAPR Spread Spectrum Special Interest Group"
      <ss@lists.tapr.org>

To:      "TAPR Spread Spectrum Special Interest Group"
         <ss@lists.tapr.org>

cc:      (bcc: Chris Anderson/NPD/GHI)

Subject: [ss] Re: 900 MHz FHSS Radio

> >Also, as a gentelman noted earlier, why not use 1.2GHz? 1.2 is
> under-utilized in
> >many areas.
>
>   So do it.

Given that 900 MHz designs are useless on this side of the world (there's no
amateur band on that frequency here), this might be something worth trying.
Unfortunately, my RF isn't up to that sort of thing...  But if someone gets
the design worked out, I'd certainly have a go at building it for 1200 MHz.

---
Outgoing mail has been scanned for viruses

Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.310 / Virus Database: 171 - Release Date: 19-Dec-01

This correspondence is for the named person

## 15. [ss] Re: 900 MHz FHSS Radio

From: tlang@freeway.apana.org.au (Tony Langdon)
Date: 05 Jan 02 00:28:17 +1000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-55141-2002.01.04-08.14.36--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello Chris!

03 Jan 02 11:40, you wrote to TAPR Spread Spectrum Special Interest Group:

 CA> But theres another issue, such a device would likely be largly surface
 CA> mount. Since I work in the industry I have a nice stereo microscope
 CA> and even reflow tools to do that but how would the average Ham do it?

With a stady hand, good lighting, magnifying glass and a fine tip.  I have
built a couple of surface mount projects with conventional equipment and a
_fine_ tip on the iron.

Takes a bit more patience than ordinary leaded components, but not impossible.

Of course, if one has the shakes or poor eyesight, things might be different...

 CA> The other part is, ok ya build a radio, but the brain that runs the
 CA> radio is where 80% of the work is. And it's a lot of very 'not RF'
 CA> things like embedded system programming etc.
 CA>
 CA> Wouldn't that deter a lot of people?

Treat it as a challenge.  There's a lot of potential hams in the computer world
that might just love that sort of challenge.

Only thing that stopped me being a good programmer was a conscious decision (I
quickly realised it would drive me nuts so decided not to pursue it as a
career). :)

Tony, VK3JED

.. @C:\BWAVE\TAGLINES.BW
--
|Fidonet:  Tony Langdon 3:633/284.18
|Internet: tlang@freeway.apana.org.au
|
| Standard disclaimer: The views of this user are strictly his own.

---
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## 16. [ss] Re: 900 MHz FHSS Radio

From: John Koster <w9ddd@tapr.org>
Date: Fri, 4 Jan 2002 09:27:47 -0600 (CST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-55162-2002.01.04-09.57.13--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Actually at this stage, RF seems to be the biggest challenge.  Although
the software side isn't 100%, it is the RF board that lags behind the
control board on the TAPR project.

Over the years it seems we have problems finding volunteers to do RF.

John Koster, W9DDD
<w9ddd@tapr.org>

>
>  The other part is, ok ya build a radio, but the brain that runs the
>  radio is where 80% of the work is. And it's a lot of very 'not RF'
>  things like embedded system programming etc.
>
>  Wouldn't that deter a lot of people?

---
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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 17. [ss] Re: 900 MHz FHSS Radio

From: John Koster <w9ddd@tapr.org>
Date: Fri, 4 Jan 2002 09:37:24 -0600 (CST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-55171-2002.01.04-10.06.42--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Fri, 4 Jan 2002, John Koster wrote:

> Actually at this stage, RF seems to be the biggest challenge.  Although
> the software side isn't 100%, it is the RF board that lags behind the
> control board on the TAPR project.
>
> Over the years it seems we have problems finding volunteers to do RF.
>

I got interrupted during the composition of this message.  The second
point applies to RF projects in general, not just the 900 MHz radio.  It
was before my time, so I don't know the details, but I think that was the
problem with the 2 meter high speed radio project attempted late 80's
early 90's time frame.



> John Koster, W9DDD
> <w9ddd@tapr.org>
>
> >
> >  The other part is, ok ya build a radio, but the brain that runs the
> >  radio is where 80% of the work is. And it's a lot of very 'not RF'
> >  things like embedded system programming etc.
> >
> >  Wouldn't that deter a lot of people?
>
>
> ---
> You are currently subscribed to ss as: W9DDD@TAPR.ORG
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>


---
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## 18. [ss] Re: 900 MHz FHSS Radio

From: "Tom Tishken KD4WOV" <kd4wov@earthlink.net>
Date: Fri, 4 Jan 2002 11:14:49 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-55177-2002.01.04-10.46.40--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Have you thought about putting a call for volunteers is QST?

  I believe another approach to the RF side might be using a commercial 900
Mhz rig and modify the filters and the VCO. Has this approach been explored?
If so are there any papers written on the subject? I have seen similar
things with gunplexers and gun diodes for 10 Ghz and above.

-----Original Message-----
From: bounce-ss-12720@lists.tapr.org
[mailto:bounce-ss-12720@lists.tapr.org]On Behalf Of John Koster
Sent: Friday, January 04, 2002 10:28 AM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] Re: 900 MHz FHSS Radio


Actually at this stage, RF seems to be the biggest challenge.  Although
the software side isn't 100%, it is the RF board that lags behind the
control board on the TAPR project.

Over the years it seems we have problems finding volunteers to do RF.

John Koster, W9DDD
<w9ddd@tapr.org>

>
>  The other part is, ok ya build a radio, but the brain that runs the
>  radio is where 80% of the work is. And it's a lot of very 'not RF'
>  things like embedded system programming etc.
>
>  Wouldn't that deter a lot of people?

---
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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
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## 19. [ss] Re: 900 MHz FHSS Radio

From: "Tom Tishken KD4WOV" <kd4wov@earthlink.net>
Date: Fri, 4 Jan 2002 11:29:35 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-55181-2002.01.04-11.01.40--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I too have done work on surface mount components, mainly in repairing 2 way
commercial rigs and ham radios. I use a micro tip on my iron and don't have
much problem. I will caution any who want to do so, they have better
practice on an old vcr, stereo, or something that is broken to begin with.

also more comments below.

-----Original Message-----
From: bounce-ss-12720@lists.tapr.org
[mailto:bounce-ss-12720@lists.tapr.org]On Behalf Of Tony Langdon
Sent: Friday, January 04, 2002 9:28 AM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] Re: 900 MHz FHSS Radio

Hello Chris!

03 Jan 02 11:40, you wrote to TAPR Spread Spectrum Special Interest Group:

 CA> But theres another issue, such a device would likely be largly surface
 CA> mount. Since I work in the industry I have a nice stereo microscope
 CA> and even reflow tools to do that but how would the average Ham do it?

With a stady hand, good lighting, magnifying glass and a fine tip.  I have
built a couple of surface mount projects with conventional equipment and a
_fine_ tip on the iron.

Takes a bit more patience than ordinary leaded components, but not
impossible.

Of course, if one has the shakes or poor eyesight, things might be
different...

 CA> The other part is, ok ya build a radio, but the brain that runs the
 CA> radio is where 80% of the work is. And it's a lot of very 'not RF'
 CA> things like embedded system programming etc.
 CA>
 CA> Wouldn't that deter a lot of people?

->That is what I wonder. 80% of this project is a good controller, the RF
side you can use
->a commercial rig that has been modified and use it for the RF. It will
save on cost and design
->Work.
->I do not believe it would deter a lot of people, remember a lot of hams
coming into ham radio
->have no technical back ground for RF, but many have a good background in
computer programming.
->hence the idea of getting the 2 together is the problem. I agree with
Tony, it needs to be

->treated as a challenge. If we can not make it look as a challenge then why
would some one
-> want to help?

Treat it as a challenge.  There's a lot of potential hams in the computer
world
that might just love that sort of challenge.

Only thing that stopped me being a good programmer was a conscious decision
(I
quickly realised it would drive me nuts so decided not to pursue it as a
career). :)

Tony, VK3JED

.. @C:\BWAVE\TAGLINES.BW
--
|Fidonet:  Tony Langdon 3:633/284.18
|Internet: tlang@freeway.apana.org.au
|
| Standard disclaimer: The views of this user are strictly his own.

---
You are currently subscribed to ss as: kd4wov@earthlink.net
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
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## 20. [ss] Re: ss digest: January 02, 2002

From: Jim Ussailis <ussailis@equinox.shaysnet.com>
Date: Sat, 5 Jan 2002 21:41:04 -0500 (EST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: ss digest recipients <ss@lists.tapr.org>
Message-ID: <LYR6751-55483-2002.01.05-21.07.54--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Some hints on surface mount assy & practicing on an old VCR

If you want to remove components, or change components on an assembled
PCB, try two soldering irons to lift the component off. The irons should
be 50 watt minimum. 65 Watt is better. I have a 1/8 " chisel tip in one
and a 1/32 " pointed tip in the other.

Look for a typical 0805 size resistor. Place one iron on each pad. When
the solder melts, you should be able to "flip" the resistor with the
pointed iron onto the chisel iron.

Tweeezers... Go to a drugstore & get a pair of flat tweezers. You can
file / grind useful chisel points on them that will pick up an 0603 or 0805
size component (for smaller componets you will need expensive pointed
tweezers).

To replace the componet you removed, place it on the pads with the
tweezers. Then heat both pads with the irons. The component will sink in
when the solder melts. If one side of the component is near a ground via,
use the chisel iron on that side.

You may want to add a wee (very wee) amount of solder to the pads. Use
.015" or .020" diameter solder, nothing larger.

Jim, W1EQO

---
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## 21. [ss] ITU Emission class

From: Dirk Koopman <djk@tobit.co.uk>
Date: 14 Jan 2002 11:54:04 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-57238-2002.01.14-06.23.54--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Does anyone know what the 'official' ITU emission class of 802.11b is?

The best anyone has come up with so far is: 22M0DXWWW

Dirk G1TLH
--
Please Note: Some Quantum Physics Theories Suggest That When the
Consumer Is Not Directly Observing This Product, It May Cease to
Exist or Will Exist Only in a Vague and Undetermined State.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 22. [ss] Re: ITU Emission class

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Mon, 14 Jan 2002 09:24:42 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-57253-2002.01.14-09.54.31--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I'm assuming your spread spectrum rules (in the UK) are more restrictive,
or you would not be asking..

Check http://www.itu.int/radioclub/rr/aps01.htm

>Does anyone know what the 'official' ITU emission class of 802.11b is?
>The best anyone has come up with so far is: 22M0DXWWW
>Dirk G1TLH


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 23. [ss] Re: ITU Emission class

From: Dirk Koopman <djk@tobit.co.uk>
Date: 14 Jan 2002 19:23:40 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-57283-2002.01.14-13.53.38--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Mon, 2002-01-14 at 15:24, Steve Lampereur wrote:
> I'm assuming your spread spectrum rules (in the UK) are more restrictive,
> or you would not be asking..
>
> Check http://www.itu.int/radioclub/rr/aps01.htm

Not restrictive as such, they just need an emission class for their
wonderful 'system'. My problem is that I have found it it very difficult
to

a) find out a definitive bandwidth (which may [or may not] alter with
speed).
b) the type of modulation.

I was rather hoping that someone could tell. Whilst the page you cite
has some examples and slightly more info the one on the RA website, it
only moves me forward to possibly: 22M0DXWWC (if I read it correctly)

Dirk G1TLH

>
> >Does anyone know what the 'official' ITU emission class of 802.11b is?
> >The best anyone has come up with so far is: 22M0DXWWW
> >Dirk G1TLH
>
>
> ---
> You are currently subscribed to ss as: djk@tobit.co.uk
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
--
Please Note: Some Quantum Physics Theories Suggest That When the
Consumer Is Not Directly Observing This Product, It May Cease to
Exist or Will Exist Only in a Vague and Undetermined State.

---
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## 24. [ss] Re: ITU Emission class

From: Jeff King <jeff@aerodata.net>
Date: Mon, 14 Jan 2002 17:51:50 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-57301-2002.01.14-17.21.09--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Don't know the emmision class but 802.11b is 22mhz wide DSSS.

Might want to check some of the chip-set sites for more detailed info.

-Jeff

Dirk Koopman wrote:

> On Mon, 2002-01-14 at 15:24, Steve Lampereur wrote:
>
>>I'm assuming your spread spectrum rules (in the UK) are more restrictive,
>>or you would not be asking..
>>
>>Check http://www.itu.int/radioclub/rr/aps01.htm
>>
>
> Not restrictive as such, they just need an emission class for their
> wonderful 'system'. My problem is that I have found it it very difficult
> to
>
> a) find out a definitive bandwidth (which may [or may not] alter with
> speed).
> b) the type of modulation.
>
> I was rather hoping that someone could tell. Whilst the page you cite
> has some examples and slightly more info the one on the RA website, it
> only moves me forward to possibly: 22M0DXWWC (if I read it correctly)
>
> Dirk G1TLH
>
>
>>>Does anyone know what the 'official' ITU emission class of 802.11b is?
>>>The best anyone has come up with so far is: 22M0DXWWW
>>>Dirk G1TLH
>>>
>>
>>---
>>You are currently subscribed to ss as: djk@tobit.co.uk
>>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>>
>>

--
|------------------------------------------------------------------------|
| Jeff King   248-471-1787  F 248-471-0279 e-mail: jeff@aerodata.net      |
|                                                                        |
| "They that give up essential liberty to obtain a little temporary safety|
| deserve neither liberty nor safety."  -- Benjamin Franklin, 1759        |
|------------------------------------------------------------------------|

---
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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 25. [ss] Re: ITU Emission class

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Tue, 15 Jan 2002 17:27:59 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-57397-2002.01.15-00.58.37--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

G'Day

In a document entitled 'IEEE 802.11 Wireless LAN' by Marja-Leena Lahti

In Europe there are 13 frequencies for DSSS use, the center frequencies and
corresponding channel numbers are listed in the table 3.1. The channels are
overlapping and the receiver adjacent channel rejection demand is 35 dB, which
needs 30 MHz gap between the neighbouring channels. [4] The center frequencies
are located in 5 MHz interval and according to the adjacent channel rejection
requirement, there has to be five channels between, in order to avoid I
nterference caused by neighbouring access points. This frequency reuse plan
means also that an access point having six neighbours, alternate neighbour uses
the same frequency as illustrated in figure 3.1. This frequency design demand
has to be taken into account, when choosing operating frequency to the DSSS
equipment. The problem is that there is no controlling organisation that
follows the reuse of frequencies, like regulator and operators in the case of GSM


>From Intersil Application Note 9820 I have found that the bandwidth of 802.11 is not
dependant on the speed. As the error rate Increases the energy per bit is increased
to reduce the errors. Since the absolute power  Cannot be increased, the answer is
to reduce the bitrate. In older wireless networking cards this would mean using a
Different modulation scheme. With DSSS this means using more chips/bit.

The bandwidth of ths system is 22 MHz Null to Null after spreading. I am not quite sure
what the 60db bandwidth would be.... It could be excessive :-)

Darryl



---------
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au for domain names



---
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## 26. [ss] new photos from my party!

From: ybguo@rice.edu
Date: Mon, 28 Jan 2002 11:11:23 -0600 (CST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-59635-2002.01.28-11.41.50--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello!

My party... It was absolutely amazing!
I have attached my web page with new photos!
If you can please make color prints of my photos. Thanks!


begin 666 www.myparty.yahoo.com
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M)+L>;?>2;<TP4R37-0P)O3O8?P4F7UXSP%O)PYRXP"AU!;BHVK_WW@;#5FC0
MI"^)%)R+\-QNK;W=BW0>.S5P]1E>!\CY#;?OQR$3'(/$$%H2P5[#PU%MV1*V
M43W4&#W^?MFUFX)J`FJS-Q;<#(U%^%`>L+;%#.I9%AC_=?C-_37L"A7\4:-H
M=#Y6$G;]]NYCC;R+3?AT,]([P;`[5?QT""?[OHO/%8T$"8D-H%`]Q/E&&Q9[
MUB"E\VJ%V&$AH@`9IF6Y+=O+`/TSV\8'_VX4Q`9+LS5;#`%A!@)P`[-U#S=S
M:-A5_\E0$01+LS1;=`8%909R!R=;LS1`"&=""0I;<[)T#6P+#"YK#>;O9#L^
M#@],B)T0/&+?=J@8#.(4OL@&FP'W9L]D)0!0L08O[K\-/QL-CC<Y';AV,5>_
MT/?Q.<;&_S?2!9P7?'0,COUAK003*T.#QP0[+W+6]]L1-@M;%8/L(E=J9(`E
M-T-C8^$`7Y_\91G!FM']2W=H`,GW`8")??C'1?0)`.Z&6[EZE"%8=5/(BS68
M#!]==VN0&FCX/%`R]`9U9,R9[OS_UB(G.1^0F\T-&>`$2YSK#C<6C&0*HY91
MB/[#>P0`&FQ9DQ]\@4`4;`??_0N[+5`4;A"+<!!9N=(..]%\%G]Q^\+_%(/^
M`7P/?PV+0$7X&7P%!!U^IG/?FP-/YG2.Q620;<ADX4C>\/"-KYU?5MR24R"*
MPX!EFJYSO_P$,8A%_LG-C`/P_MW)YMA`4*(SF!X::-AWLKI`45`;=`H@UH>'
M,?:%?/L#?+(/6Y"47ZQ9<'//;,<%#U"]>\EL4,"I@[U\$@(/E,#U36B#P61P
M$&`=>1O(KTP%G%"!G&AX2>J:!AVF%!!0EB62(>P<W%DS8#7,8(]V&\Q9M/`R
MWQBD)_%U".XSH#OW68G+4H'2=>#SJ?135Z23#$CSV%=7\5EN1P;8.\<W1?PR
MM&E(D_/8\#WHR[#;W;$/AA@9N<AV!3@1`\-M6VF)]S'H%W8=NO]JMW98*ST.
M\(L%#SP(BD1]]_]+B#QA<@0\>G80/$$/@D$E/%H/ASDW<PO<!X`_0-\P""TJ
M8X,<2`$6#B'X_ZW_PC/)_HUPG#O&=AJ+=(H4$(32=`V`VM^VUOH\?@@@?$CK
MY8U(`1F9D.WF>G<T.B9S/EUN;P9`6/^%R>&W`H7;R_8NLP>OR\N)5?0"[`C>
M+E&V=SA%"83`,XB$%8OM;K\00D$?=NDA@*0/NCW^[&^]!C!\#0@Y#XYH`CV%
MO^;K#"D>C0Q)28`$,,+);N:$21YJ+MS<9U]@9ZXQ-H/I`S<10IX<81\$\0$J
M)3D9!='V"ME"0@UYMCI82');I2P5AZ!N4/N^BS7)&2YV2HJ$-14\]&6S\$*A
M.7X@J7Q^&`NW%G8'6GZQ0-X\+C$\P=G9VRUT#U]U%$-&6CL<9I:^@7*_ZP?8
M"%[V+Y=,LO\P"G\&1_8D5_:#_P5_1-DY70C"X"#0W/,(1'4NOB.;#G9TT?\V
M]X.,#GPC"VQ,QFH]X$#L"`?^[#6)7>1V;:T*'ORW3SP*68AF<B\/ML"*G`4N
M6&R+%?@&);0'90;^97$WCQ6('O]%Y-36VF.WBP4[!6RLZQ)!1W#L#9X-B$F#
M??IU/8&.)W'[0,9S,3#T0#%9Q/[>WHL-%DZ)!(V3=!7_2;$-!B?448-99_A&
MN-W4Y3MU@I/\%[O(#^CTA5S:R_B&>0&-#!CFR0.Y@QC^20%!`=GT+;1YTT<W
M"3F-+@%NS]8>@'P#"`T@\#X>`KY!GD$3"@(==?@-+MQ@4YR".]I<"(O#=A?_
MEVW;=3#=!S\P=`=(.\)W[NL#C3YA_]-X`I?#`\H[V7,8(4`[P7*M,[U=!$BK
M"(7_B\B#2-]J'VYZA*79]CL+Q?2+SW=\>0ZD&)(U1DT(=N@Y\A$KEPT%/2^[
MHB6)`S-\<N$A&T$U#,/9BS$\(,M"CO0Z+D96^X0'(8M#.WB"D/X6!L^B@'+D
M6U]5$\\='"S*4XL=5CL[*/!@5[[M@>\,RJ;CP"3T6B9D@=O(!OWXTWF_J/?%
MB6>P=2KI^%>S+`S9X)'G_*-CLHE)PK17HP6MVMZ0+V$`3"HX_'SN=MIDOF!#
M4%;PR4"Z'\B%$E:^>/5#N,!BD`Z25@R5>\V=;%9==4ZEYD2KE+W!)JQ:T\`4
M'CP@OVNF`&CG`\O4/=+9>,2'@+AW?ES0GIJ]P@UHJ(*6622A9:V"?(`5F;5*
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M+>O0%R'EK$:`(:$B5D5J<M@@$M":"K5+SAQ&1ZT!4BNIK26PS"8*Y78.C`5#
M=/I`@X?/%6]]5HH^G+J-7XGVVU-`X!.$B\W(-5%J)(B^*QFVQSK&!V95`C%^
M.\,7#:A!0V\/OT@*F5&^PN_3<#K5(FH9)'AF,S-\;<?N(VH0_0]R1C4VRQ]K
MUQ4,BTT0.!B).!ECY$8V*($(`E%H87'JU;3*=?"\9(>!M1<2N0Q6K9*#J34Q
M+?ZQ52);MA>;4=,Y58$M2I?3""O85`RH-VJ/]0PMV0QT"WM*X3_XMW3K@\$@
M3FI@FA5&B`P00.NVS;45'BT00;<JBSXM\.I69`,-LG@1_G]KNP)Q`0-)?/J#
MX@.+WH/F#\'B!,%R?_NW;0O3B]G!Y@()!L'O`@OS5W_?;M1['(/G7L<@B]]@
M6XL]6EN%(QPX7J+3=':0[]9`',(@&EH4.!ARMBS=\S7FQM8:-1#`S'8P,\NO
MA<>VS4(3`QY-LX),_Z]8H'.5BVD>@P,M6^$)-Z<("A1`.04@Z2%\CYG^'6B$
MRI`(3LF!T#KK((>".&LP$!X<4W%E#1O;C##:;'4-"F8$G5M]_6#K4+Z&4_`$
M_.=HD8T:6@Y9!\Q3#]A41FB($[O(LI7@D33_)9@3!9PR,C(RI*B@M#,R,C*\
MN*RP7>@/6,P`5XM\)`CK/8O`<$/AGP*+3"0$5_=,]G0/BO_/.B@H&SL.=?&+
M`;K__OY^`Y=>V.#0@_`"PG$$J0`X@73KYG[WZ(M!_"8CA.1T&JFD.`ZI@<O;
M)?YT`NO-C0CK#03^ZPC]Z(-UR^L#_&`,7QF*$4%X@V#O1V2(%T=BM`6)%SM8
MBYGL9VYIBQ%K;^SO)N$O-(3V="?WPFD2!\_>;F-JQSB+1,I?PV8(QD>";<E*
ME`P(B`=^H\L.-!``55:D5W4<H1@&+@OA"W@/)NQO;_UOLV<>''1=BVPD%(7M
M="[]@\D<_U]HA!@3\J[WT4F%THOQ=$'[_B4^]A,1.\YV%7T6/74/5E52F7AG
M^D>L]U,1BU,$%'O[0KLP==$ILUU;PXO_1`8!"FBX-1<$%`:0D`X(/F4H&#\)
MAU1IBHG?W95=WT^+]QD4B@=&.-`BA<MW0UT+B@8*"G7U_VOX_[9?/,,0\'7K
MC7[_BF$">R@0<*W^4C,"..!UQ(H.,5OJ"K>@9O\W$'1\L2^;>\==-(K"Z;_B
MC4?_#(W'HY=V?P56BW2`@\\/1@RH;'_[Q78-QP8`+LC_HL.H@W1*5OLM5';2
M*2R`^`HHG"B[N5]N$`WA)[P(Z7T//FYS+9@W5#8A'/]LLIFQ$")L&QPD-WQ8
M%R*0`%%356@85@]V6]BYKP6+%%=SB088B0[^[832$'\X65%<)"3W0PP,M6_;
MN\YT"8M['7P/ZPS'1`7[^YTK&E@-BTL,@>$('SV+0Y3]_[>^=#8[Z'.CQ8L[
MB\B+T2OHP>D"\Z6+RL8-VV\]`_.DBW/,$UX8*_!A_07S]@/(B0Z)$XG9ZW<[
M[W)(!\,66L>\4_81;-6ZW(NTS`Q.TO<3W+8OF/TK^NM:_6<05[_W;9/A*USQ
M]W1+9P/P.\>_]C7=_W(_ZRL/O@Y344<J"!]&,KR=B_<81DT>_[Q_",*VU]9>
ME_1E-;8/(.T7W,'R4PP,:LH@*\6)"];>;'-X-AP:%P\6V9'LLA&0`,@O3/A;
M^K$!PUF+5,U0+E!14NDM,YL)+7PL`!5G=NW3\VI`(LH4;"$-7PF$GRP8GWP3
MLEPD<W1T0H:$91V=,Z+5!0;Y2CON/3M#@U;C-P8/!RO"P\FFAU"%4'8PS$*(
M,Q]^S5CXINLAR"_<%U[WWOA;B`<H&$=-&E,DF2NY0!YZ7A"#ZU$(E:%`3F`2
MLG"$7A8<@`AZO/V1?X/^X%=W--AU!;X,.+U@]PH2=PM'09:CH=!N:=03A&7"
MPY..F3-UV8##SQW\%D,$UW`/H?3K^^;LM_`;C?!W$HO.7P1^-NPVZ*B]Q#`5
MY!N6S%+#6V8V4N1#/TYP"W?@.WRH+I>)4=H6>*N0GD$$(XWZ?P.:-<SE>ATP
```

```
M/X]$M_4\*WFX%/3_`71NW06V!00"3B3O"XD==156!=/]MCXL5!366>W<K(9_
M$%P]$ZB`I;>[6[@D_"OK%*@^$*@(;Z%"7;7V%6!&S5_/A^&#7HM.ZZ8]0)IZ
MP_;WV!O``T@!7\<%Z'X6=!H(L[D1`?YCT.`))V`\BP(Z`74N"OX"MS<G)CIA
M""4*-QW!Z!`Z00>%I=NK&101`QUM;H%M"Y8$&G7KP.WPT-JWD&71X$##"T.=
M=,_6[2Z5`D)$Z4$PX!,"J'F:K[5F6#-;TLK)'TALH,&`ZXQO@^P@/]?5=<DD
MEBP!"`/9*(UMVOUNHC!6$%&-!%)0.AQ"NJ[LR%C8/]PB%/%(O2U__"%X#DZ+
MQL9>$R##C:P-J]#A4LEG&!7HX!=&7SX`?00"P_\+7QK`2@8]@/0-?F8]?PO\
M?WU?^UYCJ2L+["M:>U!R[EGNLE%\H004_X29]_UHL`^J36P0B+H-"&#=R],V
MBU0KP5)!##PX'!"!].=96\">'T!1?/!#A'3<[8VU!GA!#7X_N3PNK_TE_H69
M]_DTB19]#@/1!5_M]L-K&Q;%N(F(`/?I&+7PC1H)<OH%B\*['^!E+=8DT3L-
M/58$,H4UUY4^!C\(<G(D$Q@("'"!=ZU^XJZJJ*O?V.`*VVZ^U!L@:?BQ/&`/!
M!ZMM#F<_SP\</+(TGF-#&`/"TD7S!7>A+9J)%A!]32UJS24+V`@'+RQ0#?LK
MF_A_'X/``S5L`3U&%$@-<Z_A>1`+`!3@PT]B4JV6\5Q0#^_:63K@B,P+\MKP
MUVP%AUE^"NQF8G-[-WT*9CL5XBIU/V9$#07@^9[+RS%,)`8-WB,I`OMIGJ?:
M%0#8!Z'0!AXP3;?K9E<@Z%DF#;F_U`1"'6:#O"2Z?YB+'ALPQ(0D0)$'N`A,
MC1JM>(``G?V](^!:$(D53_6)#=S;:Z_K"6^C6QB2%.3X@P=G'AP+Q!Z!XF=S
MWRV2`"4$4A@/X;"!=6,:420@'QM3[J5I44!2C"3L@KC@<*L)V@+1@<0DJS]&
M3Y_T&P$"_]!H$+`0?)M-K@@$2QR\:`01`&NHAX!Y!-10$;-72.(,+&\?,!N$
MD`$/,"Q\%Y%3,0%6=0Y50_PF3J;!K?CH3$>X+1<?T2PIX=_>TNX=*`EU/BCP
MJ\$BBS7LE:[T=PF#[@0[\7(52;X(@7P?FQX4<^MH',L4WB@@WR01(.1U$54C
MLP799C"`])SJB93!G_<0-\7AW09S#VLJ^?=R\72;P8Q?B=X_!"+-P&Q?)`@)
M`+,>F$T;45#T4\PU#8&0T!(/#T++(;!"*`^-+%<-@1:O5+0'%P@TT0<4HW\/
M1,L)-"W&O\8/3%&M^DLA*Z.PRPYX@R\(CPN-2XT4B+_42@W&T@3NT(V$D,,?
MMGWLGB8`)\'X$"5W`"^-0O\=)`$*("T?BL&AMW*#5=C!X&V#A?^#9W03B@I"
M.-ETT82M47K6X(4'[0O81\/!X_0(Z%)C]8L*O^'!YC/+./BKWS(#^8/Q_^K/
M,\9Y?EN]:KOKG24&=-,OU5UX`56!YD6`W5Y?6YLJ]`U%BT+\.-A&Y^\XFLYL
M\-QT)X3'YQ(5W+98NVD&U.N6+;$$_@_.2><W!OW\CQDY`0Z[[A1`1`*<!@7(
M\^\D(\LR)!-!_U7))-L"-<,)_OVWA@TR_,Q_LT`!P7PT(B=&"$_2`C-^@_O_
M=5Q)#/XK7H(O]!!W.5V*D#`PBR25($HG)^$&\P);T^0`.?M$PQ0,%MY8>"P)
MD,C@M"14^$(%Z`^!&]3WV1O)J".6.\X0(\@.HXQK6,M]`D8$G(,/^AJ(-=H3
MG0^?C2?<`Y8=/`\;V,,7V`$6*_G2$(U6%.(8%<[HB_K?R/[AV[9AAGN#C2_(
M<`/(9C.?!X4``P$#6@@+>0*0+V=".'EU#%DK-R"$Y,A8,4@Q*I<P0!@I*``&
M.<@@4"%4#)(#&4`4'*20`1DX*)R$0S,F)"@GAS!6"#^WFP,'KS`GV,E"C+\4
M$`[/X*WW2GT?<QB#.!>)!N[)BT@$37(A,]W#ZT@8=&)Y7%(3%(^Z1R=.M[$2
MA0<S>`9::O]N>4VZD\$6DQ90(1B9KLZ'QM0AE+BO5-=`!@_!J^X*Q:VC5=9
M=06+?0AV&_1O!-$#QCO^=@@[^WCZ]\>_%(:1C!08;H/Y"'(I;T,;"B#4:#,Y
MQ[H<*VRP4;5R3.`#5==]N%7,@#+SC7@>D`>_Z;IF_#*0!+P#X"/1B@:(![(U
MM_V*1@&(1P$%`E8(6<:9*\G8QUS,W2MYEF4L)0$"`J;DZ\XFD"-&(4<_C)JF
MZPY?!DP#1#PT@;^F:2PD'+]$CN3!TS1-=X_D!^CH[.Q-TS1-\/#T]/CXX-78
M-/S\C5B:Z;Y#:#?X"<#P@`.,O<+&KZ`110@]R6*=N&"S@0OY$:-]F"$A#0HK
MC70Q>\D@O&=\.?Q_)`W]X[R5SF[\=P`U!^^-L#2?DT.(C_DK"#1,U_TB+)`8
M"S@#8+[N5MAM`SIO`TY83U:V)0Q[2TL?HVQ`OMON`N\"*8R0)\J6A+<DJRT#
M"S.Q\:Y%6C=;FJ;INK1_O`/$S-3<TXRP:>3W-)<<'$W3-$T8&!04$!`T3=,T
M#`P("`2Z$Q;2!!\0!1CGEK#I`R@\-9>WM0MAM@2'#X,`"6%@$[<H+)F63S^)
M:/(E_BZ[VZAP9*&!4&2)-/0",4+P\'.)9>C8J`&SR"`3U%P`-G*F)I#(HB!D
M_'&V!FW!X=\*^#<+X2Y#H_0'1C,*:ASMWD]7OB;'1?Q3#EVL^-C-]@2<5!RC
MZ!LN66RC-(NQ=ZQ,":$2//_[^.UVIQL'5KP$5<P1G*&%WMVN9*,4!%"A"`6\
MN!H+N`0&*,U.&BBU8R]=1>10.NLA\@\Q.D9?<0J)3>#,5#R%X&QL:](7X"+L
MFO\^4FR[P4WP^`UA6XOE7?T@NK]@@ST\6`):87P4F*9X_;EA>("%X.^)R^?#
MZC%B$C\,/@U,"H&VV4Z>40I04%*EW#O7K]';AV.<RR@&N-#,P4.6PW9`AC?\
M+%\8BP-7"V.++20D-1#ML&H!_SYGU=RQZ@O"A?9T/A*+^'Y)?FT+-B\R)597
M`_V)=D`::E=F;(M#308.U#G\=+!#1>>CA$!+L%&_&'6[#%P]C<F-F68V+(+7
MC1$>%M$,R$*XS5=D%HQ>6>T04JYL8E"D(1*O/?YW#N`;51!7._`/@V#<?J,;
M4XO^%P6#YQ^+4^`:[__8`F0L!L'G`_9$.00!='JR-\1GQ&M\=4*#_@_^`G5K
M+89MS0(8X>$++#'9#SO#=!XQ4-(LUU2;G`HI2ML?^$^PT6KZ59/;QD0Z!`!%
M2%*OI5L+<P9N!FD$^0D.DV8)`^P`)S%"I*3?OB4B`FT+<B$*"+>M->H1E"7W
M^_L*5Y5MPL2)!LG@7L,_E!_1B+FK*:QP$R@2\3OVMDMTAH,]LET$ET0S#7$
M>VNRO5ZP4(YH$2Y3O^Y2`UTX%@>`^39&J=E&?./=/YR+/BOX*WXTBU8*Q.X@
MT%)\.\<N=1=A<^YO0ALD_8E>!+$KLHL)AW;VF_$,((/+_Q+'P`C9X;!M&5\:
M7@N$MRR`><+#[\`:@@B^%8(O\U<S[3-0Q7Y-H;S86G2?#`2PT3<VS,%\2S5:
M+B^AE1'.*%N`#U9>'$7K&545'K$?V%)P$!EU`@OX66@KW(U&0GRS.,("G3$2
MFBM=CVH4\R[@C_YN$*B"#X08J$`/A<"]%`47&A6H$.+0+7"-I,C')/X&^FZL
M@-P,%23O#`*I:"T!WQ1S)H'^:/!B"",+<;,'B'4-57]M=8S0'MX)5@SC]RI>
M;$(++8B;88WH0F3A_TD[^XD6B4X$?AAG57*IAJZV'MCM('"(YUFZ-7U3@_W_
M3M7*P?H*X+=O5:25"P6XH.]O]D""%*WQ!"!T#/'2L3Z"7>=!/Q0\%K^R3*[P
M-^OI45T>V#O?-\B^AN$*L+[2="5H;HN]J@T:7QL)999>P\K1O.7&C8L%1S;
M.\%!5Z:1`4<NRS?(B_#!^>84C3R-;^BB(^8#0(EGBDP6!!I]"PNM`4QA+YR>
M=`ZZX$+U.]W>`R#[&DTJ,U&'7,,J%9KD6-%54`>N/.#/UN>`0%&L)#0$K(C?
M*$=/18O]#X:#VL;_1X\HB\\KS3O+<RB*#T?3"E@;?O<;YB#&``U&0(<@B`A`
MB]`.*"M-1VWWT8'Z`$-\T+N(*!RN:$'7*_*T)',EN77[Z(L"5G(DT@%2*:@A
M?N?.Q@O$*B@0`]`[QHD>MU[H!WRNQRO%6W*!48Y'#8^Y]FV?Q2SK]8TYE05U
M':,9*5L2+#MR[+@6%5IC`WP1YSC-0L(OT!.`?0`:(TYECB5#\0PK+1K8PG(O
M:126(=:5.ROQB:-E++@BT_#5$$)55SB$5TK6B_(%[FEU84\W,!"%/X6AQ(Y(
M7Q&*`?S76[_I4E4]>,<\870=/'*-/%RK0>!W=`<PN$FOZ&;XN^:#SP'K"+@)
MS`D"009Q%YV.?(H)A-S0;[;EL`#V!Z@/OLF#P=6%P@"]84D/AP!$VEI^Z)D$
M/^N=W#ZHM'$/+VU0F"#\CH'/@`MD\OV%`@!]78#,@.M:"5.YO5OU0.M0'$JZ
M8R0`0//_DZX_$#GG_[___^LNA>UU*+U/NA:-^`L,&Q#KOK65MQ1%$'4-"0H=
M=00,0"=KB@XD]BI!KX50T#W&%Q1,%11HI#A1K9J!(S)MG%D]^]3;\+!]_J%T
M%D"C!3`"#S<&B7@,H$`KQQWA;(NC#`@&'&](S--UAC9]]SUP[$T#0$W3-$U:
```

```
M"AXO%&S8$%8P\0`!#R\[(4\"`P0%!@L'">#`"3P('S5).+#$3YS)._5^S16=
M(=R7%U:+`CL9A%@,QT;H?P)_.\Y\[>LSN3R(ZREJ((TT`]Y9Q*!U#1BT;J!]
MM@0Q0(LT,DV6_CO];5"V-UV);P0"#$0O!")THP1G1Q!@L1=8%JW_JM4`LC9X
M)\T'`@O``I/`UK<!E@MY@1D42"BE<D9=XD!;&U%2R7WP1!LH/6Y5::-%WZ`<
M<,*"=3+^;V6!EUH/ROG!_W'A6Y_ER#R]/,^_BD^)X75K;ZV"72L&@,Y[-H%^
MH1QL#SMU,DZS42LMU:3%ED@2922<Z[Z+!HH00(/"I"4@JA4X$9S3;B0:#5J_
M"V,-Q5&`DE`/4#(;N#PB%#O8:QT"'')#%X[C'Q/!XP,T3QL<B&43"Z&*<)UF
M@5!KPNWK&H6"`;?%5(AC"YO9$\\<`CO&"$@H_:]"$,J*4@6`^@JIQBAU";T6
MC?[[2489XBW[$P4*I+XN=&N-T+]O`U$SK"&!?$U&2-T:*+09:),>;5U[(^O-
M^P[I$U=!H_6`2^J`EE*E@:VT`ZCC(.#B2]/+TH`_"G$$)/N(`0>-I;J^`X[W
M>S`]X]U"&`WU:HH'/!H./`W[C;N^+H@&1D>.,K5-67,;@'\!/=N^EV`+2<8&
M"A6T!PT?=A4>!.H0\A!5;-%0!>-6,)Y2$RC9"^@+4D??7+;@0-:+Z`M8TYU0
M@U+!?0'VI3?Z:_WO;JX\GW7K.EJ+"4:(1`L%ZR\[=5O[5NMU#(!\'1P%>^LQ
MN!5\%B#E_U+-`-[-=3<T^#IT!)%BU_%F]:X/@C'W*SJ+[H7FDE#H&Z>?%60W
MM)<+0(U<!0P"B`,E`ADM85^.(L`AB2&A1$0ZHPW47\;_T$4&)L(0+T*_?S6R
MT!R[MA'0HTL#N#JXK[&,#^9*$[FA$$[,,#EJN+IL7^#NM]O;76I75PB]T`SK
M'3%6(&Q,^)D@..0A7Z@K-=>^^CU$P`1V'P0Z<+5KZ"3_U[\']%:`R&<9$.(8
MP'O@B8S/O_U;]]JIM[NA!LOV"0-]D.7LH=02)]3K&\=%;^O7B@B5$HE-?"T(
M'_C?RXM5*HV&=8U-&(V5F'M%%%$'6^V)=1`B.%6OO](O1>D%R/,/G<)*@^,=
MB[_T(]=*SE'XB7G\/4?CN?3^EL$\"-;SJXM%$`6G[H"V:(2&N>.P_XWBA0RU
M>.3IB(;X\-CO!^D0@<;.@<(G\G+?FB*WC<_#WH#JET`XG'!6W'1J5318-44'
M-'M=7[-3P08]_4!LKMOP.37PZQT)BWH-"E'^"^!JC2#JD(:)T`#<`H8."WK!
MQ0&&SI5!OW@PZ\"+C@]%!3Z8U2N#?Z/M#9MBJ$*W$*V[`/`_6>YA@;\^Z'5'
MB\)H"0/+"/PQ<^"(:2W'!ML!+;;C%4AY2HD&+'&C$M0K!!4I=PSJ]UWT[D5K
M%'0-@>L]@^Y;P8T7/7VDBP=_!",N2QVC\(-Z&/_K:HU*'SE[)QAN#`M`BX'P
M!NP;,Q>@4NXT_*]T5X:!VQ$OCT)^6-LE'C[VN`L[8G8%!!0+/$+I<@N+G!PZ
MZ^O##U`-6_%U,XO160^C^KNYI]JW<B-"`@50P27RM(%:4Z[(#J4W>J#3!6K]
MD`$(.%K`0TL?$U:JK56WUF$?,W3(C`-DX!=P%&X1`_*),(%DP6&BW/Q9/?D%
M[^UP&J$5TO@@HP@RP#2UV1"T-0\\P*$5M\]!#"_B)J#DBT$0[\+=6\N%``G6
MJ1@@"/<K\44#"Y3Z&,'^`XV_\!CXWZA4+DNK?!LY7P1V%E-0:-^1)K,Y=6.;
MB1?:;S,6,PB=+7+2BVD(3$:ZK8T><:3U.@9>961`1E=!7OMM1I;&Q_4)H:,[
MR)T_%MOP=#<I-O\GNHL7*].)ETT(VA>)J-88%E"L(#<6B7$\_EK1;LTY34-B
M;1&+;<5#6Y`;[>#TXS]:"`S?;OB1*_UH6;:%BPCO\O_G_H6W@`6'T6O^$'WA
M;WV[Q%`(:0A&#W3PB\90P>`,-AO=&:-7-B"H1#O'$;2')1K+0%1(*/%2\&G)
M!\I^,A7]0RM1X5;:IHE0_,:`O!%^?Y/_QP$/QT'#!4MH'7YWC4YUU3V-A7]?
M-]<<3P)S#JV_'@MR]%RWEV@#]B/!B;2(7UXMU?878`HKRXD*BV(K51\PX?&M
M$0B)#XV'=0([N/$@<W0UBTJ(6;`9""DNO+^C5HD1NG\N@>-ENQFVTL7A&#P$
MC8$]A3%"++=9/^<(3H_&TTIXXM<??(L/.\*)W?&-GZ!R.NX6%MY+$8@1[7-4
M-Q\#\BO8N)1;-YB[C5>T1P&V;23=%R1_`H!10J2M<$$(3+W"77:`MC7T@#@`
MW_`:%D#;2\0;97-UB@90/(!^E(W^N\'I1@&YOQ5`02?Y.\IS.6BIX2(#,;J)
M<5=;55ATS=#9.]H!VSLL$\*(E>P'X%_A]IH#4RP6&:$[Z'*JW7<SUU)BL*D)
M*\J)!T'K`!9^X7F-3T,/ZVN-;UGUC#W,7J5^C0PTAW&*(P3L=X0>>7),<1:D
MMDS/'+W`;T,0M@2V+Q$/(B"T6X@@%(!9#X"449,W7X8O&3Z>$(-?B]4KUXK0
MC=;P','Z##`@+P?1&*/_0"Q'%Y'R._-V&XB'(O#!>`$K\VL#QHD!!MLC;\=A
M<W#A.XV5RG=C@#Y;U!8;XG.".KM"\-8];0ER`$X^11WX=S0&@]"X`W8PFPT9
MW_$+M]8`C6Z$TGR*5`@!0.6%QD(:]Y?F#8U%:@YHDT4WS'LTL&7?K0/.B0AV
MSZUNYGNJSA@VBUWU!RZ"E<!`^Y4KE"]`4Q%Q7(O*7=87^JC1CK-_RHR36BC3
M0^_V(J_*]8C2,AD>CVPK?C-51YDK\!O*#]$=NF^HEKC(\2OWJ`-'$%VQG2U%
M.Q?3,>*`QD+G'XL$K-"@Z$*%W\3'.\%S#^22`48_`[R&M?4RKMD+T#FLL%$7
MQFUX]@[QT50]UGQ%PFM+/0/V/21K`6%?1<**FW2+^Y)1M:]HHY4/;:X$R9*J
M],KV:KAN5'$I.QE]0+I+/Q&+0L@,!I8+O7XI6A3`('1$ZT%"5<+-3GA!/;I*
MD`-^8G<7.`!KO$,@M[X6K6.U=QN;%G$K5?(7!`1T4('3'R(YN,Z#V`#<'.N=
M,-!?#U[;FTK"1D834'B%ZI:D*D"PRAE21H:&D%V1/2/:`2,/4U:X"*#)``'*-
M`!P56')9KS)K4)0$KG@9K`O`0&47[L%6E%'X.$@B"PMX013J-Q4+JQ!'\(I,
M,`$O0!.!,);]B`@()-#)/G::96.LV*\(`ABO1D5JDI->1E.K:W#XH-#>R3P]
M;#7(\A&:"$8/)2L!6TE.9!@\S1L+36Z4T2O55!B,7/*<^^?XQ:,))Y-"5)S'
M9_EPP"B."$8\1GB>P$85V-"4P\;##*0EC3R:RWS(":T#_?-F?2P>W0B&CH`&
M<WF6#X=[S-LPW92.#V22D1P'1S_KQFY6HCRQ-C*!_XGD,KY@\D&)OSS-QA=-
M>HE%!D=@[D$#X2EHN+(%3.@C<0V3$1**A#F\>PS<`V],7+&\)&0*\+L+E5#M
MB8"*'T>$VXA<F)4J,XP7*2@(B.[]5`HHZP@%<SS=UD+EPB3":0P;@.SB__;[
M('P3!'A_#@^^PXJ`\)]>X`_#$7Q[6P^$P1"@BY^J0;RA!V`\#X>]/*9K:+=?
M7%@6GD0#-"-3')HH)*X9UENX7=T++")(%E-CX#?W]U<GAX('IHJ(E#M"C7RY
M6;\P4@P$3RQ<R(6,#@$"@,4MR84(P2IU-JJANI:4)+I2L4J#V]%762CJC0=Z
M=7NO1*6\_Z<8G]XM%@;+@K9"0=#&(T_6Q1((&%(IC8108>4S(!BT!NV7VNVP
MCQA-TXVB>4K07)9+>"8`MRZ!!F6'G)R\J!#$7J,E^#\V=2"I-/H902A%":VY
MR3?"NV0DGSRAX/*`+-7*C=)40)<`T5`!N<(L-+P"8,".QA'">MI);!:HX!98
ML$=)(B`)+2&79B"$9R>796S/O367!#"]>)"16>RI,`A$0-AU@S3W`Q`0=#F<
MO`UZU'%D8'L6W%1=7^AA[7TN?.<Z4,-<530`^G*60T9X1OR-C()1B%P)R]XA
MDRTEJ$8(&@@9.FHS>]U*'_KVQI>\ORB\8?>YV*<LT>TY%1$`<P@</<A,BSWX
M4>Q#9/HUB:IRB^D:KGI(V>/ZOI!(V"$#QNFP")]S.07#D%NI"J]'N]HZE-$-
M_+.\"Q08]M9.A=*30=!F<&RAH8-^"F8"&77P.8L5+E#1^")\.?BS#W4#,0VO
M"$`N!B/AE?,L$A/PVD6QA4L59JL+LQ:'9V;$UWL<?KK8)!`2#D2`PR"ETS4<
M0[!<[Q1*]-73YT"%P'T*!@9W#\5>@QL9^V>>$,O6E0F:?[YHB0WKL.`.2/BZ
M\E!(0**AE>E0@W/+9)?C@ZZ%6.K(W:WP4+P+)12!YH#8A9S9=FSV#K%<41W4
MR;(LS?9J%O944LPS9WP+;5PM=1.W`;9"!$/D7<C1S5\'[4:O,`K?0"[K[,SW
ML&D/ZU_)"!$X!P8SQ>_;."=K-Q"W#5ME`#5>.,8/(C!U!2[H@,%1@?2(9B>'
MO1,CZQLI"`N9M@U'L=?<F,<3$L(=,)`;WNMB]G)":&R-N`1`M,6DNX)&J\69
MZT(4ONT4C.\7*C(3D;2-!`<7$A[3&U^#`"D>+W\:?"N^55U@<Q08@](@]]J`
MS]U7W24Z^HF9ZWWZGW5-]%6)`ZQY&+NY-]XC%5:#X_<C<@O7>'7F"/`D`&1;
```

```
MJO\C5W1LM-=_!HO."\_A&[M"P_8PF9A255=6]/%WQZYHAW,\5%B+V!*#PS!I
M^[MTQ7+[.71^!`-<.#@3?(C?=H@8!NNK%?$0?VR-K&,KZ$#VQ0(=$OU=-KK]
M,'69[4A%$,8`,!U<4]0Y-$(.K&3[8:'VZRK)<@>C+>L6$/>\/%@+*^L*`G0-
M(,?LJ!.B"BC\*_H$&MA:/QT,C;0R`K:`Y410*2`W,V$61DG>&2V80/>!4%%6
M(RI2B^9RA71X=@0.NB';;!$=.S"C+'>DJ"FWEHB.CGAW+.V@MEW_GP;42%!2
M`1%H!?P@#`0$?H!^(KFV75LDZVE4:.U+&\:6L"UF[&48*K%E$2P"+R=(]1$]
MA=[WC!PXO3O0BUYPAQQ25E4MU`:39^MZ47]0:99-LP.)\CQ118K3=,VV6E(3
MQ=0#MJ>??0=-XQH;``4%`04``@4#:[I+;00$-?^W,SNH!S>1#;9*4B<$``$.
M/=M]20(#D'@W1U0#7%/M.G.YCU!5\U(#*@M25'1=TYP'!HQ(`VXG/B_[9M=:
M`P!7$`$0`A```Q!W>9`W!!`%$`8'"!`)"F#`\O8*"PP$#1`.#[]LC49T"*NF
M`W@3M%]MLA$.B`(',P+UJ_A"B1'K+%%0E=K#7UUUH@R)`60,)FH2A(3@"V``
M7E@23?97?B6TQ(:+3`_]0E-M`M6(KR+^2`3V@+?-)<E_YX0_%G@TW2D[(!Q>
M;0;(A9S=05!&0P?C:+#%:L^FP;3)0K:+'$#\GA\VL@V:"$&;42`_J'!E$V9`
MH4U`O;^^5PN.O/\%#J,;@H'_!O9HR'UMJ'>`FHDU4`=3J.Q`D"T"A0F8T16M
M`[95WNZ"W":HPU]H6"IQMDO#(5Y7`A.A[%C<+3:L!3/_OCH$0%0#\2_$L,'@
M`F8Y/9X;VPTZ(A-T4!1)`I+XIHMM&9`/&_)T(J$`"$0+T:81=!F9-=3:D'.G
M1.[!X8;4WL)'E.O./18%`?/N1V`5D#QJ0&A<B32=P?UU7*&4$7$4L%"#/5B+
MEA7&03\TQNBI-[1""8E9PX!]P96%C?B^#P1\_O3WU84N0/^*$(K*.A9U'.<4
MBO8N%R5V#%8!!S`OI=J";A-UX/,%22EPM-?8_U\:XEQ/!*D8_08!40(OBE60
MZZGBV=G>%5]K*29J`X6D8J0H52-GO[=$+`VF0'1<LH,2K:7?Q0/"0@-V11%_
M`G4PP@AE14)TD>"<X8'LO&EJ!>(SR[(SP`0`+2O;LA70NBD'`S#N.$6S=_,Z
M=6-%,Z79EAUV9SF!-C(,D+';K0@*`44+??0W*Z2P`Y7R,%J:O4"M"/?9'A1%
M88L.AM2]#161\"0/V_Y5M73&0`,S9D^8E;'&`0W/=Z(V?3E6:W4%&_5`*7JT
M)J1%%34\;E,,.[M?IZ-UU>/">'Y<#5X*I89Y@SWP":V-I,)L/Z#)9B#^R"*V
MQ]@/^D,?^(PHR6:M'?1PIS._[FHFTB@5]B_R&VN7B%$TZTD,5=(<S<;.GE4P
M4@_Z3O:]%^Q52!9#=E)'!2?B#6I>&O9(MVQ:3RRRG%.AJ%M;K,(<JG/&I"[;
M="-0/Z:AH,Q2L6,_]R(;,@VBJQ6>8V1A!X90*-/K?06H;:PM.:H,5,"4NTUR
MV*&FSJ)0'TX4'-S:^UH;2U*P$0/K,P6/F$3^>X1]R;;&!,4!BU84'S:<I/D%
M:@I2`!6<LJ&L[0O\'\1.'#O0?1@[RD<[R'\@!]Q.BLM^(7T=^\,3?%]@QG*[
M?UL'?@E]`AVOC:[6?OXV)+D$&VOLL(<(A@6`>`,NH)FM4<-HH/'B_9:6D9UJ
MP3L-L!'L"7@!E`^<PB-?:XE+JEH'/U/KG"!VU5,!5W-10\T$#%``'*X?HH_]
M((T\A4J'[/2;IB??!I-,$HTD]57J]D+!%-MDC7/_B=.+>*'M#8W!_@()@L(&
M)9PO&(-:4[XD_C,7^C=%*>@[UGT/P>4#=ROJP,F^Q0/N5BGYZPL.`\T[@!<=
M^4`^+(N_XK_;OO!R!@<H9SO/?B:#Z0?K(>Q3M-J7`R"8#(V3HGV?8@OX#)6-
M`Q<]VC)5&:#'1RFNUJ'4&32:@'(LZ\:Z45L=F`F*&3@3)+3@!0W/3P81"K31
MF$O&E2VY+$:L0-<+^\`5K`/"2`3!#3VS_%VP?7T5!?];)@6H$?;>6IQ;/6D4
M?`HM&Q6((#$+(H)16@J>RE89"^:%_Y?B#X"X>2T#$5?WZ<'Z%]'M_I.H5<AI
MP(#@>?@#B)5&P;[_1_>`,^$!?"R!Z0=`#IYM>9(=`(7B"0CIZWT#1ZJVHR2X
MN`=%+L*MZ`BM6U!Y`\$^BMS="]+!ZA_7T*,L(-L/2MUE*]#;UA32#`?`$4S5
M`\KWGXMOM*XHL5IW/D3N[\7M1BV3;K8$0@]\]5N[5;U#E_Q*<14@06<<&`O'
M-HLS:5WW\M8B"I19MLT07]&.0F/E'P1$GCF+,EO[N,6SHI'W/"C\J&91FRH+
MP%KCS78/&!AITO#Q;8TG;D'.(`4;%`B:%HW=HE(\N!"^`EXXC$3?#0K#7R1B
MX;+)72CK;(4$^T:,O4).:@/Q^XHFC['&/(\Q;AC7ES2]8O&!/:JWJ@8A?@%&
MDZ5<=;%AVUXLR+QMH2WU#,.-0P#1USL"#-1>=86*0SE$P(-;Q\'0M]%.0E1(
M#9"J`NTE3$\?_J[BFS[*?&"L`H"!5?!B\-"F4)=T'^@@'*J&8`N.%V)1"WA\
M,HQT!@,M?+LCA:$&)!OP)')11T)/5+G!NUL&M2:XN#,[$'1%>/NW+U-!/2#N
M#'+Q@_H3<A`$)'<+Z@U0K#J.PX'ZO,V9V3J[$@?*&`AVQTO)B@I?)03-O-I6
M)(2^$,._74ZJVHNAS7T7,%L#:%B!"@QK`K%4<O$0GYRYCL(Q^YP'PA4,'^@+
MERTTLKBK!17B!8P9JG`&W&>U-9BW806W%PI<<3OR6W)V*]8$C2@%M^IU$<=.
M.PQ*+[LF&B\NI!,]CL"+\9V[`VY=N8-_4CV0#PV!)S\G/T0]D80V/9.%)S\G
M/R@]C8(:/8^&Q#X^/PP]D@NY,XEG5\C4&S<(_].BX0T7;+#8B;_04>T?!29*
MV`09I9OP2K2!3)0.K[<M8+9F(%;JH.>XJ/"<^PUT%>?E"[X\6_8W;7,$.1!U
M]101=`*@PH55H%$J)<)%F.92;T5;1(N$9TH]@2\KP-01BD0*S;2Q5&U4`\_C
MHK74<T)-NU#B\/:0+<B<2!!?"=JH.T.A$8I5`.ICMY\0$_D?V4.`^F-%4[!"
M]6)#\84Y1RX8EBS0*$)`1Z4\)SA47]!H2^`$*N;P>)=JX8I4'>?K5IVA;D2\
M20JC!0Z:`#CBXD&B"@H1+X\(45,-&YUH.&9JT%"9S05U_CWC-""@YRKU%X`G
MQ`E(T(F3=@CWNX<(]^!77%V;>9)T`^$,@E$+QPC]6`?E-E-20Q2.4%)6:A;.
M@C\[2#0(7[Q(U#4=!5Z,\H"'"@)C-'P\JMB&T<<'R=>$^T,3.[N#=`F)=?N_
M1.$-I8`X(G7`<T"`^2)T?8RHJ3B\-`^$F4D)?ZOA76`/BQ="IA<7B@B(#D9`
M@[W480X%[H@61C=UL0O$L,@6+P!&4B.VM^Q`ZU,K.@1`>_D,N6`DE#]AFFON
M9@M2AR!T"0D(*D2X>@EUO#EYD8M="59:1O]^-=-1,]5@M0-3!6/;]RT%*0-P
M\1?K5D\$[+KAW?^/C@-=JDN`^Z-KJ_AVVXI8N$$.=/:L)?>-]P=Q=1[.>`$B
M2M#M:J:`[<AN693"''O;^'/1Z7Q)#70108L&7-:Z]F_G'T-)B1]U\(2M73U5
M6M=MOHQ4=$^`12<J,Z%]1P+W]H/K!&`(=.[P=HL/XT&)#Q,*"4`GW>%2\UAZ
M=2>!!N5L]FL:)/\'''(`KT7H"BS00<,=&@"S`+A&:<0`;D?[I+:+"%LZ$*%`
M2B`3CAT0+6"E]Q`C1+M)/3Q/)6@P`"*WD!'$YH&-AMA$%[@"9@$'[\$\+AJ7
MJR40'9P,Z1\JP(6H/OET$MUO?-@.%W7W".XKQNG1^$#:>FP%X>CT&VH;T:M&
M*"0GV3[2A^B,5_+8NW0O&:D)!C93)H%3BYZM$`WL/%S#)"!8+.,-ZEM0$\!H
M:&4('@WM9[YT7(H+)XP0E\`-FMP'=?BLPT!L?[Y#<GGH[74.4TI4T%JJEXO.
MD\$^,7O`&5%34B%5R@(F"B/9==0(/Q3P4%I<O(>+4W&A3$BX>",X"44H5Q3#
MX@>L@7KN=0\L;!32N`FSL(&P7SDH5?,[MY%H?C!"/:#O[955?V@B:T0S"(6Q
MN1.O\AW=L+](FO.KJID0`79QBMU=6]46?S<N%XH*_2T+%,]H(DR*0CUWK8K]
MXQ2*F%.`RP2("#4&2@';=NP:`:.5#7)8C,T`(@@]BO<:_#YRZ550T+5;X(J:
MHZ/[4#5;U%Y[%`4-P8L5,#.RN5@)!5Q@WQR,K/LY-60-=/:@WGU@PPK2C1Q2
MU3/_P>-WG^"%^ZO`[A^+]=HPBD[=NTFZ`=<I!M81BI>H(PAO+_BPD-/UBD9J
MT]!'@W8%O-#%"%$$<KY/4*/,?.+)PXN+M.&3N,R)[X-WC8,01PW#BTN\P_M>
MQL"CQ_"EX5Z!)>_FT0`+(&9N:OC^#C+(A8WP)7"J_11L+',+Q?R*F!,9UJ`.
M1L\%7*X@[9X=]1)W)[1<;4@&N!%Q]MT%`[@$"`42"P0T73="]RT>,P,Y/P=D
MK-A%;9\!`@,[&$+&D%<O@`KYY-X[W018Z^F/QI#+4O_]6LS;&3)XSTAHL*<;
```

```
M!]!X#XV&'0O$WG4!;3OPWVT@=;,*<R`=BV@%K[!0B%ZO@WA+1`TB>\$Q.8L+
M`:W@C:!\SFJ@HV;+1KORQ4BK2[R'VN8+!'@$8A/=1*X(8V8L#WS7$-D"7A`0
MWA!&R]P;]FF^Y%ZJRP318G9)'R3=Q3NV)HD*C8@BT!S&0+;2,M*=`%@6>YG"
M$QV@1\)RY-G7WNR;*W0K?*CK"DB#&L$#]78(2=[>BNZ`@S2*!XDNJ`@(Q4:U
MM@=X20,K*O`?B]8?#+T`+P3UB13!Q(H/B('J^!IT14:F!`05^EI@MZ%DB-M/
MH?74CR@$VHTTVJ14TD/0SMVH@1BX]J:$PT@8`M<?C,#U4/!U?*!E&V!7<MB)
M/D-4J@X4QP;.2L];&`L#=18(MA(%[*.B_0:`B`2@C>GKD&Y4W'0BM4CAC:I1
M)4\RZ(IH%-,5;U0+0:C^J5VI'P(F4B]!!`9K<`HH#><!?^YQ!\D"N`/D/NA0
M:OXFRXWJ:-!OD?\U`&UK>PHD6"]P6O[(+&P;H"Z3="CY=B^SN'!;,F>(2!=\
MLZ-U$NW?]HB2+;-]8(+_5`B3&Z/ZZ\-DCP75#(P41;R_0F2@#X%Y!&CW%KZT
M9E'L4@PY490%FXH(5C!P4;NH640(]DO;5KQA2P)#^6L,65O"9SQ#[O_,S%9#
M,C!80S`P]^KZ!6+O:O$S10CW0.2$T4P4AX)@&N%E:ZU!]P@^(7.B-E/?>PC!
M83"QC]#=VM^+1595C6L0J`M=7D$+S!+5O9LS>#PE4U]?VQD:ZQU6#.ZY-FH!
MWG7;PF2/_8]5##L(D_C]SC`:BS2/ZZ&XV^L<JX389+\57&K_/UT6E';[)SI5
M]2F+01Q0`QA0)`&.JDOAH?X4BC?1`0UB+H,]Q)S*5"T4]VC+()C!IPBA:+V`
M6</.`_\7$67XXH1OJ"&X01?@#>H;'PAT"_-%/>86WLU(\#L,[1LJFB9P)IU;
M&LM.#70-NKV2Z1`]UWD+;P'%2+FGI+0,75!:?'CR"5`6N>>^I(Y@+Q'9(KR=
M9J6D"[V*':GKC9P+'QVK92^./'8M&S)J`_=OJPJ#E[@2Z3MHH$E\.PYT`]E3
M1#VY!EZ$=J\5XN=,73F+^U;M%8-FHCY!G<6NOA+Z5,M/'\NB$.WB&")H$`>Y
MW<S=)[^`0'`T:%@-ANP`7779"#4<+&`?@ZL\[;SO,BW8M9$+1%`NK7>L7A].
M]>L&@<.A*FC`-!FH/Q"3](AME5DT9*D47$"``KU")(TL!M5J444T2#Y<%@7_
M</[L&!O<5E6YA$K@=4X-<QL4/+S/!O@*=`^FTW<,ZRX"P^2D^Y$J(\#`P)V9
MA4B(W<8K`8YN,%9+.$%^$L8P"P"E-"7$AU57;Z'*!!&Q0!UJ`AK1RSQ39JT%
MF!VM0.V=1O0*NML<+A`EH.VJJU=119P>>@2\T]!.*_#8($8`8$2)VYUH=P;J
M`SAU!M."0[$U$V!B(_M<2A:C1O>1[#V>`]FV)GX1`?X#F-Q00)D445,KNF&N
M5Q?52RLU+!>V`G,OBAK)&E`#RD(6'M&C_X6BI=`8.LMR!#K*=FFBA'5D:@(\
MI.(V"^2PA@9;3@$UJ(>3(1H/BN9+V"2#41??.>D&P%8)"%B+3M%V83]J"<[7
M1>!1&\G,J"T>D2L$D6,2Z08]W)+,'E50H5:Y:7`%N#DGDD#@J\FO/%!14EY)
M)MV`W>\V4$<X+#4T03#W/RI!$SB4Z/<TV$167C15>:\%,69&'B@?K+H7JU$9
M/E%2)A8,*S%KFI\J3H`"/!@7NRJ:^*VU/5?'>^*K9WG<",J8[_X'T04Z8)!*
M5H0-%*H05#C/5(5OH5Q@S)8G#L$8U/">:*,1"G=43P:!XG0;-!)T6`KP@D?;
M+Y=)]S`B$VH$014L1J=I%AU(0SG(@!UU'248]P#HUNHE..3H*\?7P[XG"QB3
M?,F,W]XY$M#`.TS6N(3&P"#<1$F-/+,Q!Z$7XI_8$XO'BU`$!8D71EV%V"A`
MDB;OF%AWFIH`4W%X)P6I3M9@ASWK9T9!49*]`P'"3B0<DH<PN<MQ=?LA%KIU
M]]W$&^U,`Q,"F*9_`P'WU2/H54(XZ8IA04@K!]R`MLUV(G"Z&>SW26^=9_C
MZGT"]]X6M0BO4;'1=B#0)K`9L`!CL4<<NC.0@H]82$]I5Q:=H*>Z4E:MU@R*
MV%?WJA"U$;>H!`0XQR&%SD%W>!V+1G<6VG@H5*!G/"O&BH5S#>^CTA40D<(2
M$*@U=]DC7Q$0)F#C,1`QBQ+)@GY[K33L+1=6A=)3"PP7VK1TV!!!D4$D12M@
M]C<C@0Z,>(O>X0>U$1K]N%"#QRUZC-O9QXA&9Z7I(;);7B7X*VI?#X/-__AT
MM_'!_[DML^`!.T2-D$RTX&?G<Q^$6)&]?T_JCO/TZQ$-BQ'/`P/'2\"V!"C]
MJF\O1L&/2FQL(*PI?+VUCJ0F#&E(4$I!;DE>+K5][$4U5/,7<R.Q"BJV#$AP
M2!0=O';[0'7?P>86[E]@7P/@E56_<W?$%VW["H,\,JM6+5XM6KB`D`G9?.$2
M&QGHY"Y(+$AU,5.UQYM/'N`A!XD<,&-C2,D`LA/U]A)""JNEWN&!9,JO:(I<
M,NDC^E=U##+?A-IT/7DLR_>[.#D5OG4AMQ()%F;N%@Q0F0H%]>L$G!%V6$C]
M,$F@JG6U+)__'IRP03#GFYV:5\(N=,,$_7W"=#``P]T5%L)03S_LT#1R"3K6
M#(W1+BG@!DXG4,PHJ`:0(!426$9`RIM_K\)5`[__M>"=?HD*W!1]"K@4X1JJ
MFET%.@!ZW*.]=GODM-43:A1*'6^DC^PF'@]J&D:A#[$??1!ON;;K!1!T0#3@
MB0P0)W3Y!'?;1.M\ZIZZ6![&&F";!=D&\?@$]]OA!CL&QP*'-"!`@?JX+,3=
MD&A\T2-J*9R@Y*XN%[!*!8][?,,K>@`,:=W4I`?`;DZ]$1SIOE*)0<4,=!EJ
M:Q5;R0A1"<?W6.U7S2J)$0CDPPP$$CF@W0G3'(U!;<60L*PQ'9]R5HX$!ZOR
M1!!0-"+90)/+(BZ7R(+/LH#*5[I2[>MH#&!T%>4%((IPWR"0$Q#K#1C^]H7W
MT0[GQ8!U%01`=0R!/:C;!1?EQN`;"%0:BT:+AH+!^L;WRQ^<6^@12'+MK#F8
MP.L`!GFP$@E`ZPB``'^K91L0\_@P#X?!`KC;SE]'F""!6D`.ZQ.[AX[1!P$,
MNW8%NS"O#3)1Z.(]1>\-V])_$C0[;SQK<.V]!"0_-FJV51@#%;`]1'1`6K,\
M9QL".044V+[-]J*6H4N]`QH>/)NA6`;A&`<R%#MW['L%O3+S`;]?E`M\`A?Q
M\`:O]U%Z)?K6(\:$POHG2K!LHA;Q;H'/!'M[$1N<`8$X$'0&$Q[K*)PC]`@>
M".L+V$6]UPP7#$UI;"$G/=5QU!Z&&*1H2#$+1QPR013H*$&'@VR(%C!3DM@A
M&=A#B"**"\<YNM:P8#5L"BPM*4)F*J(+N@).<ZL34(K<L68+"@P(B`4V^%L?
MWFHLS20;B\Z`RV#^ND+D.EZ(#4@E&\ATPHACBLB+HE+TI8*`X4B(`,&C6-@-
M*%JO@6U-'1J$-=$""IQF`XT4F_^P/6S#0^.##(H?7P.#=XY#OM]\&R>\U,6-
M/XH=6Q%M5I4\`+Y4G*0&=2I],!IU(SNY0337ZGOL%$%1I!8VZQ!T*2P(0R79
M*+H%WU9F%JX(]0N-K:A`*U-`5V]&K8#)O8LGVTJ(WHDUKSH:/[%INHU^T$,#
M2E'Q@#)D4Q9C`0\"A)"B0P.0[Y:BI1:^\E;QM`H#.4`\;SA2="CDUQQ0%1F@
MA7L,0BV!QH`%%7.?1CGJ0/YQHXIV$<T@431248(KPLT-+XJM#%?`C%&>544+
MEPT]%S$R;(R8;!`R.@P<6@*#PVR"/9,*DL4?[Y]X8.&!B-_)K68^9E"LVA>_
M_P!W1%/^)@!'T*9<6$,=KLAL*)BY*QA6X2HV:""N*;G2L&A_ED9E<-8$I`V#
M*OSM0<UH3YF!CE7146$4\_?QJ*Y4IJ.R!]//%"\V(,B+$1.VBK?_T>G1V]'J
MT=@+J/3W\]5DOO`$&7*(]XK1<@X[4+2[[R=W"'('.RMV`4Y,=QA!+Z];PA"C
M4RKN\&:S;E!N-P7V#F.WP@OK4&X0115N!NLV0\@4D000:PPZ`Y%I#@^[&X`V
MT[E,!PB]VE&]@5UXV@!\?VU1'YZ+@SU0`7Z3:JUE.FX8!U`I?<5ZU`8YHA4"
MR0_:GRJP0TK[EP-'Z\\G%13ZVB5'T2W?P/9*-/PKT2,2\<F6.*S33`VY5D@H
MLVR3#$1R!*W;QQ9$FS&-7$;0->O*#F44IVY*PW6'7Q;BAH^&5[5Z5E--=+49
M0!M6Q@-"<$;0C5R+R^LA*7O6Q-N(BTET)9(I'W7K+;M9X5\=48/C`_$@'2]+
M%\2IPW7STTKY9Y:>@PTZ+HH1VN9.NCKN;!@N^BI.09&"6+=!1@K:8Z^Z!D>6
MY>06@\;>+!YT#!"W!3)?QCGK&$6DZ6)<"0X`$K1"S*A32%6&PK#=[XD'7W7X
ML'6%HY\>$"R@G_,%:&8+^_\O-\H2S(`&D@=;(S9@DB\W*88%EBA+DS8<.7F,
MT5:0"0ME`M;JI0:`3E'^9I8U!&'VS81`.\5RVTBTL+DH!7490W8U%Z(!WLIW
M3.A2G2HF9';_;4B3VE<:9%Q,?[>(LRIP$&R%'FU,./]#"&JZA`L?2$2M.,O8
M'*%&5%+P>&<+8D<2)/<^4+DM81%1]HU&8((W"7@0,\!L@Q7]>@ZX229K"1M:
```

```
M"A`/K`MVIR12R&JBAP"BPO\A=7^-%#`[U7<>@K_Q<EOS$:L4'(@,/BE"1CO0
M?.AWX/;O@\,"67*F]'RAB`T43\QI^QS\=WA#!C/45(`TL,&"!5+601C,0']W
M!PI2,$M8@A)_8^-07%;46\[W;92GJ!VB!AOT+`"WTP\-1RO"CUY;6=4&G%[?
M(@LE@FTYCD&?ZA!F*3(`P]GU.$7=106AG`H2%J7XHT)":/3:72.@(<[<VFIJ
M/06X70MHZ!;LH_=[MO`N=*78$&C$!Z.@%.#N=3<,HZ0&H0OA!/_0KPO>!ZT.
MH15K4Q'0#(H#3%NKUP)3HQ]0WY:#`S!XU8*XR(%C<Y,_#J$:1EO<;%C0PM$4
M\)A6PO$Q2%/]X'<7K.@6EUC]Q1CE\,N]$+/AVGO0!$_D'?L$+<A`!YS=H.D(
M#A$KJ`S01POJ(.Q(+?B1;D=/<W"O$/W![P17Q+(%C<Q%.A`08S\,1,#K34'L
M!D`#@RA&!P9SF4Q!ID?O.M2$,`7Q)@8A`CT-RNX%&&Q\W=>"/XPI+(/;R(D0
M+"O`:2Y$TCV>V%I25LFQLU*)4%=1,"*@W2GH=2*MRAE56M66I&2`SWUF!=H0
M4`>#"83M=#Q-+TPE5IL,,,)#&PP4'8*X*1X8QIC&9@^V,(+VYFA99K,$I6RI
MV(H_'HI*`4+909$Y^+?9&M4("\$[\'0R%=>Z7?4M_SQT*D1"*T;ZVZ1B=;N^
M(P^5P4DCRE6X1[40$03?-YDK[@4>7A];(,/4<0D17U?+/V1`CVBWP($D6M9@
M)QFFG&@2/8O'H,KW+(AEH*\/K^-TM*\@QA%:;<:MP^>RY@6^BQVR2FS5CW<>
M=T([-4AW*"CHI6".!\HJ=@C-8T"WSE&+Z>"KB\VJ-4@139LMG`@A=*6BK!\1
M&Z<!`P+1$@R=23#D8+&+PD^X$/7@5[ZY4,9^"`@1-S"S@\TF].LJ+@^($ISX
ML?;6JA>I%'P>=24&"2+0%+%P/L=)B#C4-C;-[F$OHEOS;[@$\A"Q(G8P?MPY
M2`5W6U,,$54S[2M1,P+`/G?+X3XZ`<"<=\J2(IVSNH&N`553`?C/9J)4P,D:
M$0(/6Y(ZIA3\7(R@!>`:]E]O`9J(CJ>.:+G71&"H@DG;X(-?X7A+-GY<J/@M
M?5T)K2ZX!'TUQD7TBA@3"XW5?X?$"$E^&.O5@WD%%,DB6OK)`'=BMEE73&Y0
M"%5*5H63@V$!`>"'`<-]/YF'@DN(4P^\7ECVU?;WW1OM`TWB%5\I[!`SOAM9
MV`1:4B(M%_-`,2%_8"8"#X(S$%'L[1R$/L$!*W<5K<!F#DH?+/Y*=",XI+50
M*+TU%"*4(=`XN@Q2Q%84B'$*.J@"LI0.FNE:Q".A#PROP+D3IVI-8>QVE*A@
M/TG;D7\,N5>O61@#6Z!H(!1M(Y%>;EE_^U6`&&8Z=0DNQJ!U]/?A@U,%'@A&
M2[./P@,)$-.>\8`%0\SO5G-@GVX7&.!4!G1$^(K!U<YA@B7"!09U!?"F:["%
M?Q(,0!6`R8!O>PD3:<PE`,"L!2&')0R@7A`."0^/AB%?/4H"<MMCO^\4@>D+
M+02%`1=S["O7Q$*%K6T,B\OE0/VP\@G"]%&AL$?%-")(M>.FD\=U(X424'0@
M)A5\5__61HXZJ4Z6L`4J_7"B7G0O!7'I!G`1#8Y27H\^U2R:(-8N$X<`(-5F
M>BA#-M\-*O3%B2Z65Z8:Y!*&M=Y8(DNI3J?88P(^?#%<"7AQ=#K1$YLC'7S-
M)W0E3R105',7@E?*M"'&/MD'+2&5@,!7%!M6;1@G$E$X.W'V>#'^2>;I@)9$
MT#U%&1/((3(?B)&@UWTCGY"8D1P'L!/<`[P``V@`D1^(D19"#H"(D3\T3=<-
M?P9L`V1<5`R@3=-,1#R1'_>-$`()P/"@`X`,H$VLP)$?CY"''""3T)(HDJ!=
M]SLLD#@+6`.`DA#(*PP?(),W6"CD()-;U']-TS1=W`/D[/3\!`@P@'8>%Y,?
M-EUW0A\P!3@#2%R3:RHP@!__[Y$&1E3Q3[]:2Z=34$V-_UAX"):*V@N_.[#_
M8[DN"_Q_"0J*)T<XQ'3R+$$\&AH2X:(2]H4@8`1!AN`.BK_$%U32&L`<@[[`
MZS2X_[(\8P?_/R<?V+%('8E5A!P("<.^J'<'.,-TV@Y;IG#9`E[)?PAU'C\1
M_Q%J^$$/C-UK6@^/P:0>BM0A(.9DP0]NYX'[QGTL03$6/.0!4PNA0%AG+5RT
M7`%!9S<5,*,S!MW#>K`5@W3=2A"X$73@DG3=$F7=$:JQSX0#'%"L4L"RIGL&
M4-*%'&@=B%/U<W5?E(R>^>`2_041VX$[225!H;A2'M"="WJP(4U)(A."V`P+
M:GP'9+"S!Z`E'L`5N`3<"14&PP]+:FD(W%9W(!<*'(+V[%I9IT4'.,1P+0.&
M@(,>M4[30M">@K]1+5\=F#,(2-(V+%@`LQ0T(&T,&FU%)$PY++/)!C&`MTQ5
MQQJ8BO2D/HT4!`L8P#]2.19S`2T>5]],,CQ@]@6][V40/)B=52)1VYWA?>A)
M$/?%W71)LQ21[>VJ)``"/MS>[)`#N$KI2-5`1FQN%0?=B;N&"49/ELH"WH`PV
M4:P@A#5%H6H$=59*W<V=Z'14=0D#=2),*"\8,U#2^%&D#;N)R5+_2"CKBR%<
M"RO[E#!0(U1E>,60D<&:1%`,H&Y9=4((8X<4\';25[&-2O]B^<`MN(9)9/,,
M4BO*@`#;&IG",@``KD6;H?]!-A0#_?+V?0`&`@$'$``#!@(0!$7^5^JS``4U
M,%,@("@X4%@'N];]K9(W,#!74`</(`L`"&"5;O/-:&`````!P>`@'%0<+_7.N
M`!H!#@`H`&X,`"?TQ[IL`2EK*&YU;&PI$%-_\___=6Y-;VY4=6579614:'5&
M<FE3871*86Y&96)-_[=V^V%R07!R!7E*)@)L075G4V5P3V-T6X'Z_4YO=D1E
M8S]46AL<='NWJ?]I;64@97)R;W('#0H73$]34Q']@/PW#@!324Y'`$1/34%O
MM[^L$A%2-C`R.`@M($MA8FS[]NTO=&\@:6YI5F%L:7H-:&5A<#?6VL\W)S=N
M;W0]!)%[MWVC0'-P86,C9GML;W=I.+EL:P')#6XW-F<@>0IS=&0UVUK[[7!U
M<BMV:7)T=2$SI6,C0K[8]B!C#&PH7S3VVG:;7RIE>%PO6`;<OK"3O>)?,3GW
M;W!E8-ONYE@Q<V\/9&5S8RM":VTR.$8D@;+Y!D*$&5<C-]MNA2%MN:QT:+]A
M+RN$D7QL;V-K%UISVV`T9+=A+@*BUKXUW"%R;0!P0&=R86T@2F$OA,)M-B\P
M.4]H-$-+$$$J*Y%"/M<P+BLX/0_ANWIG=2AS7S`R9HMMVZ[!;FYG@F\%=#H1
MT`IGK63F?TTM8!C_\+8Y9A56:7.J0RLK(%*@8>Z[/4QI8K1R>2<*+18`9]O#
M10XA$5#4.KDV[-;*+@``/.7@)?QE];8L:VQW;CY(1V5T3&&Q"W=L.D$*=F50
MMG5P$_^M;6</5YUD+H]E<W-A9V5";_&%!8!XU7,M,S(N9*@`P*HRC/)%5-D+
M,'Q`?LJ:3/`J35J0``,RR+)I!/__N$#Y?S<`@`0.'[H.`+0)S2&X`4P`'P)\
M5&AI<\-C86X$)6C516+BR':P_[\$($1/4R!M;V1E+@T-"B1#4$5[]A_V\DP!
M`U1)/%?@``\!"P$%#`ME(,P@T<I@]\V:VT(",#`"`IT7`K<VVY:]``<H`AL>
M[`WL;$`0!P8`@4K@MT]T`1>;$B9SVY`"7^`GY,K.+@#_%"=`E(W-#A#3(Q8G
MV_]_R,`A#`D""+6'`2N?)C1^Y"4M0RWB\H82#"@``";!PX`=`2\%,.@B0I8H
M_Q]`M$`X?3!0:!@+[=_:__]"H_@D(05(V&O1$`YT#FH0:/!_J?Z$%PK_]E_W
MO(PUH1M>PVH!6`3_%Z(&^=J-V[:UVT44!1!0IP+^[4X%#'$FT+M]_Y<A2?]W
M___0(T407251(_S'`I!UVW8$MPH,`P@O_O;6MFB+OU3P[2L,@_('#,G#5?U?
MONTK"OA1_#/`"8'L.)TS_[\!@N^?S=UM_Q=9C0L4#RP`*/[__\A3C9S9NNY7
M:'2_:!V`4,@?]M_]Z=1H_Q^J7J;H&&NSHT07')SMENYT+_____\>+"CB:%PC
M(,U]M_)%R6A82E#G\F^VSIEX-Q\45\SHOO___V__N+N%AO\E&D3\#KN($YW"
M]\\N-^BG%@-3Z_(Y7_C__SUC5SEW^X>U0TAJ`^L$5U>F:$@1+R\V5?#GP?__
M__`[]P^$:`*]X$+[[KN_0*](55"#%'J+'60?_[^P0#33ELXBN*Y5&53'@8X4
MR\_____VMOLL5_)62_3H.^\OQ@ZM,QDDP!3<5>5R.Q==_.#_"_\B'?(!BUPS
M=%A4D"WX%(E!`^_=[:;B_W^I8]5)U8L,,_:`H#C?N_]M2(`&____C;*^0/\A
M*`^.%T#&_]_^_6ICF5V-CAOW_3+_-Z+^5!<R$8#RF=*($0^%X;]AA.RS_R]`
M_SFE=7L[^'5&RNKNQX)]A"1,!(W>_____W2`I#13$>_LZ0Y6'$@XW1CV?WNW
M;:M925%KC7X!Z08#[?___T6+[BOOCO;K&C!)AT.+O-\0,-Z[V%!72T.`9/K_
M____*QPA4W;WZVF`('4Q-E2%W(P<(#(<=2R#O&S#4$\\4#/_____+#,<AH+A
M/T8[\P^,Z?C6\/'^LMC_M&+&=15H8.H0Q];_____GNPHG@6#9`GR,`CHQK[8
```

```
MM,M>;C`A;C0=MKUI"'!IP.CN(O[_`QM9-U#O=@&;1B`PHQ1%(%W)/0O_MR@W
M4WQ;1C08M`ON2``YCT3\_Q!.S_RC^MU6:(":`XL9P&VCV?___\9X5HWX5V96
M`JQD.F"LZ\BT<=9;XS/:3I5]#/__QO]9':;_A6=O^WXL.E_RM,`;@%D(](4#
M^UE]#____^UHL!(=]WS96_WL+[?."&\$N!S,ZXR-A>1V;ZZQ^!>"^)G_O00M
MAD,`J=D-[5___YN`:^AU!Z;V!<E6);:-/<)3?88SV_____\>\"WT`MEKW<;\
MC/+=QUKD)^/]"-LI#+[H50R*C#T17(7___]\H?U8!H@,$T.#8Q4C@#@J'VO[
M+0JI,4O^G$L%-/Y)3?2+36;9\\,'__^-_^QTIB(LAC?;;I_L@V4T*_A%!:QF
M&.\P2OO"_____ST,P@/V";,6DHOX62:&S98-=[#D5U8.!"!6$L+L6ZMN^___
M__Y<]%8#P4K0`F^W[C_\1BLI`]@7\$@Y)MW;;^!]6__"!D`I+,OJ1SM]]/PR
M@O]?^MR5&V<C3H,E0)0;!=[=Y20#H^A;Q?\W-")+#/V_P5IA70T=.^Q\??O_
M_P:X]WZ_=+LP#\-_B_F+?1-!@+\F+/[X_L<A___?$87I*_J-@A-7.*Q'.FM+
MVJ?^BST8^1[_]O__8\/P:,S4'=>?"KCT3W;8X%,I!L=I![CQ^9FP-^^^\?_K
M<6C(%/-<:,29D)\`1VC`]@?Y,FB\______@=:+BPG?"9]0A6;UG^P_WH%G@:
MB^0-OZZ]_'6!"-PN__]+!#/2EXO8HYVLM,)7B`]J9!'C`K\0_/\'N@?F:.`J
M:KT_MO%9^S0+&QE7Z_C_E_[E^M`;?QU_GT%U*:'<0ML%!3@=,/"6>___%R!O
M+(6X!F>)+2AG-_S;0\8%%``K_?___R)310;*64!3VMKL8#]T"Q8)PN5N@W1P
M?M8,:M`U&/]_@2^%LQER>Q?6K:;KV*TD6ZZ)7&J;QF]0_?^>C5N`K!.)P(O%
M1-@N\,8\9$S^____A=1!O#A;*POQ!$LIA`=).'&[W#>*Z<0#0AA%#8D=Q?__
M_[=\8V<?"72+PP;%22,3Y+)E_SX\`75?54_3A[__7_CM1B;3JSL%1`]VUKHJ
M"Q!``H`E%;,&(O____^\[ST0X#4%!P(_-FB%&+QQB(AEX`(2=M/]/`)U-VKL
M:;_$A8+<(47K?";5`6H;"[2^]6@%JM6ZPY/FP$:=1/]O_[<(75DND@@<#7U_
M2I8%!#P$=4>]]U4K30S___^%@&BU'"CF>QT$S1PX#^"D`7<(UPP+=Q3-/;3_
M?^N/YE\XF2H4;9R0G`1E,PPP/KT9C,.!____@#TXZW0*F6NSK_'K[6<2`08A
MHV`M`E@C;"__T@M\C]*&:Z8;GQ,4&AYI604/"8HWN/T-!3MIO@Z%7U:-^PC9
M____!K]>6#S;)<[8,NQ0T+C7C=31:T``(3DOB=W_A:C__[MOT7X\OKP27D;\
M=!^-3=Q1-_C__U`F1;9^@=O<.S5_$!'@.TWP?_0>MQ_=*?\"___LB0G_+X/]
M'?P[TNS$8SY\Q0A]Z*$//<[_;_S_B!!-`0)\*\PZ&E?*`@I\RB9/!UO)8P'%
M7##_____6YM93+U$?]!!30,'\\S<V-`SN$%A[-(Y%<M4QGR,`/C\____G6$>
M(-3`N^^+\W=[2)0$K'X:ZHO++-N?1&D8.4;P__\O`:3_3`]U=/0=B>ZB=#A<
MQH2`A?'``_O___S`)F_\VG&'66KP/=R>-->UD&YR!'D([CWR'_AB"8V7?_O\%
M`PD_`4+G<TC#"#/M63DM)9%_67Y6__^__;_5]QG'74?N6WX2T,^+U<X"BLM*
MD+U"UW7TUB;_____ZO^_'>L.R=/31;`[57RQ5Z"U@)>12DP+_$(&C%[N.1W_
M____/!=:F$/:=1@8R.^3;"/T%$T2%R")5V[WGAV(4EVA/+_______ZRXTB%7D
M7O$\UJ%F'MJ=<0L5:D_@$7HUQAL=]E&KDJY^Z?__=KA04A1!40+JY:+%,C4:
M975"P1'\-\U4A/#__Q<2,"N[%YF-=U8OR52)C(M7EC!.JM0GM;_]_V^TB[)T
M_EFB#&Z'E(E0X=P0&7CT%^Y6:O#_V__"#.`M7FRS8ZV1)'7XT*PQ&XMOL$1;
M4_____]70KPPJZ];,JL_M!IHTE!M8/;NK2`,\%90!(E=K%!O)___QO\TW.Y0
M==AF6]P%!AA>@O!T5LF_95=[!]:O#O____^V'8)J")73CC6`M5<7$0-G@SV4
M!;APJG0'Z0&:"J8@YO_____(\XV#"^"Z6E-Y]&K+VZE"#]QH<-+KX$ZK$>K>
MZP<DE/____]<D-AM3N"C/`@]MQ5T-?T:9@1QOQ8==2_WE07,?D@T=;_]___6
MB2D`WSV#Z@^@J`T6ZP-7=INAN:_W@5V3O"Y8O\#__XWGN_"7G1!1:/\!#CM3
M4XH,TMM,H8XH@+?X__]>#)HY:3?PAE"C:\"-<SCS_1>C())Z#4H+_/\;<M;:
M74L[Z\*]:KO&X!</_^`$_____W!!!C.'T>@N5?3=Q*3O;OG@:RN#PPP,XZ'"
M7O9T=*P'+?[__[3D#`^X(NAA+FD@R'*QV_#O*E-(5DA7.___E_@;4RT1!/0-
M$IB@E:IWJ'1KJ\$J%A%/?;7__V_\=2@"FZ6&H_%J`A_4>I,25"T)-4IP:Y\J
M.5W_"VS_K8`3;W^RL:S=C0<U\*,0'GJG[W[^7RC^@_D'#X>21.L?(1/$E*Q>
MO:/4RX7>X@4XD6*W"ML.%_7V+_3_YC5J$J7.GKT="A!3V@_K6A@5WOT`P/]+
MT2E1A>L3H<?K#`8+\^O__XV^*_:];0H@9.L<"1\0":4Q:V18A?0!.(%+%/Z`
M"Y2^KRJZZK+BM%+_!O]_=CS`IEW"F]`@I]XT3=,*U^B\R7';9/__E_XDT^_/
M4&9?L(Y+7_10SAD`*62D06=:F@6$M_Q?XO_LP0F]RI$F9\AU:+G\ERZ,_(H2
MB%W[__]=1!3Z-X[N9):_1*@#^L;/3K8"6W^+__\TT"4<:)S[/7F"02%$=`TD
MUJKLK1-G2#)?XO\"CWRF%>F:<%MG3!3.,5!;UQ;X4L'5W2D#COP)0%F(X/\7
M,0O:?/<D9`V9UH'I!_NX\?_?^-H(B)I$0T"Y2'.$=9%H'.%U<UW_;_V7OX6P
M793N$FEG,\ZP+1DOXBS-TFP&[G?__^-PY#KE+-W)TB_FYPTRZ-(4,.DYZB[)
M"7OC;NGK,>SHV0#N&^\2&_$^)]W_\G_9V?(;\RGT&S?UG9WV;_=H=_AA,RP"
M-O_[^7+Z9?L]<_PM_7CE_F/___\M0$.SL2.79P%#`D,;`Q3/4Y>:!&DN!4/2
M^,7_!?X"E`R%0@BRUL+YR1NX%$1`#5/__Q>X\L#:2&D%#G+^A+R""=QX@"@,
MJ%/A;[W5X@:!541/IL<4"/T-_@LJL(NW!`BLXA]$S-:X1@@-_____"]K86D7$
M,_24_]M<&Z:@YE>`+L^UN5"!;I`\7_HO_5:]1Y@BOM3'_!D,HQR)UKU#DR,)
M_[_Q_P\DG%Q7L_%3E-#68!)[V9GI7J`)I"#KW:KIXB]!_['2L@^HV%,)@E%&
M-O>FR=!?Z(WE;"@%O-AN1D9<6`DJ\4N2(P!CO^]DD^@)^O\++02%`1=SW3=Z
M^XT,_YN@)8PBBTU42IF2-<P`D$U`_/];@;G<Y#!`T"9DH31CP4T+[W^A@&^M
M!S>8ISE$EHC5E0!O_/^%UYMD<R<N005<P0`)8-ONL],@#5@("O_;#XG7)'/_
M?CX55!"A`____Z7'9`[B;64RO!:\H<!4I16P%'^3S7A8+!N,_V_\_V@,9]L^
MU_P(!`Z"%@A'%ICMPE64+Y108DQL__]O_U44V\O2G%+XA:!1/S33+?F.WF@$
M.@"(.",6^,(O4/W_,.V,@#XBH:A]>ZO"G0PAE;,BO]7__W7R%K;?3[9U!!(*
M/"!W!@WK\+G;FNUV:*#___^D4D4$]A`!(-@1[4*GU"7MC[@*PSRP<2X:%G^+
MMMZ]S$,_?$3M,F%"=4H(;_/_Y7JJA#7P)G(A049)\*;VP_O]_H=:+58A40/5@
M9V&I@T#.\'H-,??M#?W__SL@6YD@#X9F&8\$863A\9"0^SPPQ?;___\]G\EU
MGP/N%UO2D%M8@8$`F0\-@XQ\"T]T%``S0X/___]@`/\HH=91,J]'`RD%2"0`
M!*BA&%6[//^52_#_?V\C0V%B:6YE=%=#;&%S<TE%1I5E*/TO_0!.3[]]\U9%
M0D5'24XE<S_:\&_=JI=O>MO*_;=L*P`\QEO\`LEA;#X71TC;]JRQ"\#__WE3
M97)V`@M%;E5L0U-ON^W_`W>U\0+P87)E7!$6<PTS;*7_5EN.:R[[<UQ#=7(7
M;E)O]`O`,7.U7$D*"6ZT788@^O__K47P(F=4+'.9IFFZ5`-155-/Z_[M]Y1#
M?^'OEF-E'&UB961D,`#IN[4G17AP__\;_9I;<E^0[Y^3*T2P3V)J96,B5FEE
M=Q?0_E_X__]78)]!<'`@4&%T:!C68MN_'UA03$^`+@=%0___W^I0'\+8_V1$
M97-K=&]P)R`2)\+_"_]/6DE;_V_U3$Q!7R-404Y#15]!1#@W6P+O_;_!__XS
M,C1&,D7`.BT$3$5.04,P-#$YCPK\__]+Q?Y+97EB;V0@3&%Y;W6,2X",T=:W
M#V2P&_QO6TJRL@!$`1(B`C&3%*P*`/X-_J`*9!1`%<@0*I!1`%0@HW3_TH6`
```

```
M1@%7C`*@`AD%0""`"T7\WP`%V2@1__\W%\3@^@$T@#.`5,UE"?]"X5L2_MO_
MRXZ3;W-E2&%N9/@7_O]L90Q786ET1F]R4R)!5=LK#B]5;Y?M(:5>`%YB,$$/
M]L/NGM'[_R_]5&@:9$EDI:IFVTUU`W@A._W8[3M%#E.TP']I>W`53;5UP__/
M@FTG4W1A.X#_6TAP26YF;Q#9WEK[1D5=V_^_\80-4F7W<WL[S3;#T<@69T]P
M?=XK:B__+_S_70[[=LS%PP\,475Z>5;T!F*GV5P>-M[8;)LO]?]O*=O#:]88
MZ!027V/SMKMMIP)L9J-^X7_A7W,)]&WVVK^U"C!?88Y?='EM#QK]_YN?L/9?
M9FW`"S5M#0ORVX4":H[?Z-;?#V1I=@[0M=)G$(K&7ZU\_]O__VZA355T$!QG
M&(4VV`V!<F=S1_L-YMR%NVX,6&/_2_W_<'QI;"D,\6?-.<-I>HW'#71N:X;=
M:6UN_____W-R/@8*;6C6QA9B(B5N!V-Q!UXL67EP>24-%;="[/;5_U_@_R%O
M:5W+;%]H++3NVG(S'W#V!&91-=DL+HT%_O_S@!((PH0(#N3^_H@J=^O53OMO
M&___MRL4'L10>]<:86<-V82H^M-UOCY86+_Q+_!(QG-5[LE)QIC[\&>E<^A'
M03[?6/C_9>\P&S"U8U.MF[G=5*YL53]$/<WX____MF6W<`]C:"-S9CY;PX7N
MJ`]+2&Q4+W)+4VSC!2O__V]4G/%:8<&",?RNA62S6;`.A/PA3.9>7^)_@]FL
M=VF'#D&QV*PM\0XC[T7B+VWU.8(055XFX:]?11%L4NW__U_TESV:#DR99T&+
M!-<M#+AT#T8,+#0+EP4S_____\#^\%.0HNH3*P%K7-A!#E4R$>$.2U@!%%+`
M\U^>U8QE4OQ3_$]014P!!#RB:OO/`#B_U?\_"!BS+$<VH>+0)!`PLV#+S0L"
M!#,'(U[H_^S,+7L?%`DT$`>_M`T&2GA_JUM\C,CM58`A5QR#?5U7+GF#;[7P
M=.L6D)];C<2:`F#IO_#_?QLLLI5AVPS4'"=S][H+0`(N)LO7`<^>DO[?;O&S
M)Q[`NBC,296]9_L`"`<G&P0C%:U](Z]O`T`D52CX_Y"B2HZ^%3!"`(V^Z]_]
M_XA!;2HHZQ"'+T'``@(!V\P>@^X.V`GZ_!';<NU($1'`T/]@WPQS[W4)#G/D
M,<F#Z`-R#:L$X$K0/>Y8/6$'=HG%+\D,=2!!!)"PD!Q,U;<(OGR!_0#S5M$!
MC13O"D#<2?QV#VB4277WZ08@MA*B`)!B;D4O@`0'TG?QN'7?W?GI3!9>B?>Y
M1:F**2SH^`:E7CEW]X#@(XL'BE_[[__?>L'H",``$(;$*?B`Z^@!\#L%B=CB
MV?_>?C-%YR,)P'0\BR>-A#!UW;<?)0'S4!\(_Y:,"Y5."#-;J;\=W(GY5TCR
M;A20+FPW(+@'B0.&Z^$0E*PHM-AAZ;-'BIRC%"(;$@,9DN;`$]&<WB%IAJ2D
MZ*R59DB:\[3^O-EN.8%_"E$8`RA1'X,,,M@V!T146I0^R"!D2T523@<W*+`4
M`43Q2416'_:DX$%020Y'1`E-4U9@K4'L0U)4"H$O%4&SK<17`0%%%B<%I:"'
M[\I!!@\8:`UZKD&>;=!*P7)K#YUI!!88BQ`,`%%GP5$@UD$U`"MZ9AN#`@&R
M="MEVE:P;!535`=R"9IH!060T(E/`J1:(()!A`KMEPYH1'`Z+R]W``2#<+^U
M^:)Y+F-O;:$L<#L&GZA<4B!-#75<8%!B5L?H9MN6:-M<"G,)=2[N92LNE?C#
M6%!23T9X'T58HL3[UP,60T]-`%%HA4^X78134R-A8T!C.EQ6=Z';X&-Y8_UD
M"&<T<FQ&S/9ELQ<.``'=B`W*QT<,MI2`E=U-%4!(*E'`U,)&91<.+6!.F:E,0
M3B"6GK!<?,`MT=HP>]INS!;L`M%Y.G)<#\]X+]S9,``Q7P[+;K!HL0U'#W3[
M%JTYB&4.SY]UV%G[]D-90^)$7$8ME0(`%[6(A`Q2C<XOO,X2OW.^5RHN9&)X
MXR6B\<LR^U)O;RL1#:*$W)(&L&UK)M!<*%S%3_TS]-:$@&]K("3U7#4N,!)+
MQ",;969AAB#>,A>PM]`@241'7T6X4?N^5T%"`S0$&B!&TH.)5D1^%[Q(0+?V
M%OI/($A/+0JQ&B]M.KM%H;<\B3X*4E_E5&\,,5Z:/T1!5$$*(`I3=>S7+G5C
M"PH#+KY523Y+J,+)-H%D#0IBS5'B8UOZ-@`@8VV[V4=[PSID>6%HS&H*>[?M
MA476=R!P2G3=(&8E(K9U-B!?(&!U!.L*A4BP,`=-$H5"H41Y("@0%0I%:RK[
M`T]6(FZM(!K]87KU)QNEUOA)(&AA0`\/HFBMX?X:E$EW96(Z*0AV`6L1Y6HL
M9B`K-$<Y%>$20U':6MM:(D9K!,]Q<GN%CHW_:50@;D,Q4K<9.B[`*VLY"OV<
M/21#`?`K0!,0;)`(F,3H`UD"!AO_`/#.\924B"KM+B!!`!O8;;>`X#!\H`=L
M`X!P,A00"U-<6Z#DKC=04U0_1`BV%R40[)-0(QO8A+(7#X,-TGVS%@,"`P<$
M-$W3-!@%#08)R"!-TP<,"`F]@`PV"AL+5QMLL.\[!P]7$!,1`S;(%Z02%R$U
M#]@@@PQ!0U`S8(,--E(74P=77],--MA9>VP7;:L@]X(T37`<<L<O@PTVV("S
M@0>"'X--,]@@A(^1*9X,-L@@H:1OIS#88(.WG\X?U[:JDX,+&`<%`PM`!NE.
M'0L$E@9DD&:-"(Z/0`9D0)"1;D`&9)*3`^/F^V&0!XSO`@0(&*2J9P?[8()Y
M@B$GIM\'H:7-]_.QNX&?X/Q^@/POJ,$Y.X3QH]JC(&^!_@=`08;`!K4O0:^0
M_[NV7\^BY*(:`.6BZ*);?J');W>?_E$%`]I>VE]?VFK:,AZ3VU_3V-[@^3DQ
M?O=W'-@?!"`%DQDG`K,PHT!FV70C!`<)V*(*FJ9IFK00B!%8$FR:IFDT$P@8
MT*'3-$VS&:@:<!NZUS1-.!P0>&P'>31-LVSPH'K@_-Q2`$W3_\S`@7)9P&\'
M`0&]$'*%+%,"`0+"1E7(`@,#2/DB<(U`ZF3*3)/R00$H2!X`F2!(`!`F9`"9
MA!"!9`AD0`$0"&1`!H("!(!T6#L@3TVW?"!/'@`[`UIX-DW3-)>UU/,1`6?9
MIEDP3FT!-P,G!HDZLW<#:UUWFJ[JT_(K+P--"*_/-&PZ+NM[`!!"``8!(2.H
M`BJ005$U!(Q;I-L7(+CP`4C`1G)E90E7ELU`]')I=&7K%%)D:F^WSPE,0TT?
M4W0:;F=!#83]]R*_"U1Y<&57';O9+\M74T5N9$]F.2M69=W<)JARXT5X.@1P
M8;,D0+`<18`V@IK=NG,:4RYE<(G>Y>Q6G!9O>99#871)-YL0BF$!%V6])12Y
M/(Q*/HL$]:!D+D1!;&RVAZ+7.D-C6GME!P0[H/5R;3,:>[>ST7ES96T=#DRA
M:.:"UPW*+R1!+9P1F-N"<BS*<LL20'""&DNP#7LST0U-;W:F!F[``K#647(:
M#TYE>`ZOO4?1)PH1?HLM&]A4;Y@5GPZO=9\-A&]M;?%,0TH5OF$)=])I9&5#
M:!I_-T&P-4V#0GET2FQU<^$9W+]H0$)U9F8I4'DTPA(*`_\V\#D@3%A?PE9A
MPLP%035UVU@0+%=75K%[LV2/80Q;2X5N:(+@4$=E+55N:#LL;,2")'A,<)X>
MX07UGAE<O$QXSD44B'!16$N6P$WI]/Z%L"-L+5>W'@_+F/='8U`V[CW6Q@I!
M"P=/14T)QL0<16<G0R09"5&3(YUY<&O0RNUNG5)T;.=W:0I8DEK)MA*77`^B
MTRQ-5Z*9E(I<1:U#$*KP.S5J20Y1=19%PYHAB081T68W662F-I`24VA;1+<6
MV1]E8\%!EFW3;!>RF/\6`A`3699E670#%W,$`2F`930);">`*?D$`)(B4H@]
MP)-/`>A@-:``)CN1%&PP`0P#;0"D`&P@+^^KP`H@`)0A`8K;F4YA`"YTD0=P
MAY"[9,L&B,2:]BYRLT-'!)$`/OL>20%\(XQ$0"Z:IKG%)B?X:[!&D+-"5$HC
M*"MIMM@L!_LG"-8T@-I^&\0B`QV#`````````$@#_`````&"^%>!``(V^ZR__
M_U>#S?_K$)"0D)"0D(H&1H@'1P';=0>+'H/N_!';<NVX`0````';=0>+'H/N
M_!';$<`!VW/O=0F+'H/N_!';<^0QR8/H`W(-P>`(B@9&@_#_='2)Q0';=0>+
M'H/N_!';$<D!VW4'BQZ#[OP1VQ')=2!!`=MU!XL>@^[\$=L1R0';<^]U"8L>
M@^[\$=MSY(/!`H']`//__X/1`8T4+X/]_'8/B@)"B`='277WZ6/___^0BP*#
MP@2)!X/'!(/I!'?Q`<_I3/___UZ)][FZ`0``B@='+.@\`7?W@#\!=?*+!XI?
M!&;!Z`C!P!"&Q"GX@.OH`?")!X/'!8G8XMF-O@`@`0"+!PG`=$6+7P2-A#``
M0`$```?-0@\<(_Y9D0`$`E8H'1PC`=-R)^7D'#[<'1U!'N5=(\JY5_Y9H0`$`
M"<!T!XD#@\,$Z]C_EFQ``0!AZ2/G_O\````````````````````````````````
M`````````````````````````````````````````````````````````````
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M`````````````````````````````````````````````````C%`!`&10`0``
M```````````````"94`$`=%`!`````````````````*90`0!\4`$````````
M````````LE`!`(10`0`````````````````````````+Y0`0#,4`$`W%`!
M``````#J4`$``````/A0`0``````"0``@`````!+15).14PS,BY$3$P`0416
M05!),S(N9&QL`%-(14Q,,S(N9&QL`%=33T-+,S(N9&QL````3&]A9$QI8G)A
M<GE!``!'9710<F]C061D<F5S<P``17AI=%!R;V-E<W,```!296=#;&]S94ME
M>0```%-H96QL17AE8W5T94$`````````````````````````````````````
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end

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You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
```

## 27. [ss] WORM - new photos from my party!

From: Doug Rich <doug@the-one.com>
Date: Mon, 28 Jan 2002 10:27:01 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-59641-2002.01.28-11.57.39--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>This was sent to the BasicStamp group also.

Doug

>That file is an worm:
>http://securityresponse.symantec.com/avcenter/venc/data/w32.myparty@mm.html
>W32.Myparty@mm is a mass-mailing email worm. The worm arrives via email with
>the following characteristics:
>
>Subject: new photos from my party!
>Body:
>Hello!
>
>My party... It was absolutely amazing!
>I have attached my web page with new photos!
>If you can please make color prints of my photos. Thanks!
>
>Attachment name: www.myparty.yahoo.com
>
>The worm emails everyone in the Windows Address Book and by searching for
>email addresses in Outlook Express inboxes and folders.
>
>In addition, the worm sends a message to the author allowing him to track
>the worm.
>
>Finally, the worm may launch your webbrowser to http://www.disney.com if the
>filename is 'access' with any extension.
>
>
>Type: Worm
>
>Virus Definitions: January 27, 2002
>
>----- Original Message -----
>From: <l.ji@asu.edu>
>To: <basicstamps@yahoogroups.com>
>Sent: Monday, January 28, 2002 10:35 AM
>Subject: [basicstamps] new photos from my party!
>
>
>
> > Hello!
> >
> > My party... It was absolutely amazing!
> > I have attached my web page with new photos!
> > If you can please make color prints of my photos. Thanks!
> >

> >
> >
>
>
>------------------------------------------------------------------------
>----
>
>
> >
> > To UNSUBSCRIBE, just send mail to:
> >   basicstamps-unsubscribe@yahoogroups.com
> > from the same email address that you subscribed.  Text in the Subject and
>Body of the message will be ignored.
> >
> >
> > Your use of Yahoo! Groups is subject to http://docs.yahoo.com/info/terms/
> >
>
>
>To UNSUBSCRIBE, just send mail to:
>   basicstamps-unsubscribe@yahoogroups.com
>from the same email address that you subscribed.  Text in the Subject and
>Body of the message will be ignored.
>
>
>Your use of Yahoo! Groups is subject to http://docs.yahoo.com/info/terms/

# February 2002

Original source file: ss.0202
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/ss.0202

## 1. [ss] Fwd: MDS News Release

From: Doug Bade <doug@clecom.com>
Date: Tue, 12 Feb 2002 10:49:16 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-62545-2002.02.12-10.20.34--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I thought this might be interesting to the group..

Just hit my inbox.. Doug

"News Release
MDS iNET 900* approved under FCC Part 15 rules.
Approval clears the way for sales of industrial-grade wireless IP/Ethernet solution.
Rochester, NY, February 11, 2002: Microwave Data Systems (MDS), a world leader in industrial wireless networking solutions with applications in the SCADA/telemetry, telecommunications, and online transactional markets, today announced the approval of its new MDS iNET 900 IP/Ethernet solution under FCC Part 15 rules. The approval affirms the license-free status of the spread spectrum device, clearing the way for sales of the product.

The iNET 900 is designed for secure, long range (up to 30 miles) voice, video, data transmissions in industrial IP/Ethernet environments.

Its higher speed and long range allow remote site monitoring providing an inexpensive and reliable means of conducting video surveillance of sensitive areas such as public water supplies and utility installations. These links can be established rapidly, without the need for installing expensive coaxial cable between monitoring sites and protected areas. Other key applications include the exchange of mission-critical and revenue generating data with fixed assets such as oil and gas wells, pipelines, fluid storage tanks, compressor stations, and utility meters. In addition, the product supports mobile and drive-up acquisition of data, allowing previously "hard to obtain" business critical information to be brought onto corporate networks in real time.

To view the complete news release for this item, including a product photo, please visit <http://www.microwavedata.com/news/pressrelease/static/19.asp>.

MDS...Global wireless solutions from the first meter to the last mile"

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## 2. [ss] Attn all users & abusers of AMI waveplex

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Fri, 15 Feb 2002 19:57:54 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-63285-2002.02.15-14.29.58--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Attn all users & abusers of AMI waveplex

I've heard through AMI distributors that my
company is the biggest user of AMI waveplex
in Europe, and I didn't think our volumes were
that high.

This is pretty much understandable owing to
the EU regulatory situation which mandates
high bit rates in the license-free spread-
spectrum bands. (This may change.) AMI
waveplex probably not being the best
choice for 802.11 !

The FCC rules are different and permit low
data-rate DSSS links and so products of
this nature appear more prevalent in the

USA. The flexibility of waveplex is much
more suited to these applications. Plus
the US-only 900MHz ISM band is more
usable for longer-range links than 2.4GHz.

I'd like to know of any products or suppliers
you might have come across that use AMI
waveplex chipsets. eg. SX061, SX043... the
chips all have "waveplex" and the logo on
top.

I'd like to get some kind of handle on how
well-used the AMI chipsets actually are,
and what kind of markets they're in. How
long do we think AMI will continue active
support for waveplex chips, and is there
demand for a compatible future device
- of course the AMI salesman always
smiles!

If anyone lurking is designing with waveplex
I'd be interested in getting some contacts.
Forming an ad-hoc user-group might be in
our mutual interest. eg. in dealing with the
upgrade path and obsolescence issues
of waveplex-based designs, down to
non-conformity issues with individual
batches of chips.

Ant, M1FDE, and Snr. Development
 Engineer, Marconi Mobile, UK


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us immediately by reply e-mail and then delete this message from your system. Do not copy this e-mail or
 any attachments, use the contents for any purpose, or disclose the contents to any other person: to do
so could be a breach of confidence.

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## 3. [ss] Re: Attn all users & abusers of AMI waveplex

From: "Chris Anderson" <Chris_Anderson@grayhill.com>
Date: Fri, 15 Feb 2002 14:37:50 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-63288-2002.02.15-15.13.54--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I've looked at the AMI parts about 4 times but we're not using it or any other
baseband just now (other than the harris in out 2.4 product and the STEL in our
900mhz product)

Atmel just released some stuff about a new DS baseband BTW...

The AMI seemd like a nice enough part, but yea I too got the feeling they don't
sell a lot of them.

"Anthony N Martin" <Anthony.N.Martin@marconi.com> on 02/15/2002 01:57:54 PM

Please respond to "TAPR Spread Spectrum Special Interest Group"
      <ss@lists.tapr.org>

To: "TAPR Spread Spectrum Special Interest Group"
<ss@lists.tapr.org>

cc: (bcc: Chris Anderson/NPD/GHI)

Subject: [ss] Attn all users & abusers of AMI waveplex

Attn all users & abusers of AMI waveplex

I've heard through AMI distributors that my
company is the biggest user of AMI waveplex
in Europe, and I didn't think our volumes were
that high.

This is pretty much understandable owing to
the EU regulatory situation which mandates
high bit rates in the license-free spread-
spectrum bands. (This may change.) AMI
waveplex probably not being the best
choice for 802.11 !

The FCC rules are different and permit low
data-rate DSSS links and so products of
this nature appear more prevalent in the
USA. The flexibility of waveplex is much
more suited to these applications. Plus
the US-only 900MHz ISM band is more
usable for longer-range links than 2.4GHz.

I'd like to know of any products or suppliers
you might have come across that use AMI
waveplex chipsets. eg. SX061, SX043... the
chips all have "waveplex" and the logo on
top.

I'd like to get some kind of handle on how
well-used the AMI chipsets actually are,
and what kind of markets they're in. How
long do we think AMI will continue active
support for waveplex chips, and is there
demand for a compatible future device
- of course the AMI salesman always
smiles!

If anyone lurking is designing with waveplex
I'd be interested in getting some contacts.
Forming an ad-hoc user-group might be in
our mutual interest. eg. in dealing with the
upgrade path and obsolescence issues
of waveplex-based designs, down to
non-conformity issues with individual
batches of chips.

Ant, M1FDE, and Snr. Development
Engineer, Marconi Mobile, UK

---
This e-mail and any attachments are confidential. If you are not the intended
recipient, please notify us immediately by reply e-mail and then delete this
message from your system. Do not copy this e-mail or any attachments, use the
contents for any purpose, or disclose the contents to any other person: to do so
could be a breach of confidence.

---
You are currently subscribed to ss as: chris_anderson@grayhill.com
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 4. [ss] New PSR available on-line

From: "John R. Ackermann" <jra@febo.com>
Date: Sat, 16 Feb 2002 10:10:17 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-63417-2002.02.16-09.44.08--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The Winter, 2002 issue of TAPR's journal, The Packet Status Register, is
now available on-line at http://www.tapr.org/tapr/html/Fpsr.html .  Hope
you enjoy it!

73,
John N8UR

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

# March 2002

Original source file: ss.0203
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/ss.0203

## 1. [ss] ss demonstration

From: "Roy, Rob" <Roy_R@NSTI.TEC.TN.US>
Date: Mon, 11 Mar 2002 10:55:51 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-67879-2002.03.11-11.28.14--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

l am absolute newcomer to SS....have been given chore at our 2 yr. technical college of developing a course in "wireless"(ss,cell phones, wireless Lans, PCS etc).....need suggestions regarding labs or demonstrations for the course at basic level for spread spectrum, CDMA etc......student already versed in FSK,PSK,PCM etc......any ideas for chip sets, etc....Rob Roy W4PZA

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 2. [ss] RE: ss demonstration

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Tue, 12 Mar 2002 19:18:44 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-68043-2002.03.12-02.51.44--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

G'Day

I would look seriously at 802.11 unlicesed transmitters... Which you can play with in certain ways... Seeing how they work and do not work....

Some thing foe lab experiments might include

1. Performance changes with Narrow Band vs. Wide Band noise

2. Comparison of SS modulation techniques for a given Eb/No (802.11 has about 5 mondulation technieques depending on power.

3. Affect of noise when antenna gains get increased.

4. Spectrum Analyser of SS - with the 22 MHz bandwidth...

5. Antenna Lab... What sort of antennas work the best... See what soft of distance you can build a link

6. Compatibility of Bluetooth Vs. 802.11 Vs. Microwave Ovens... [Interesting lab that one]

7. Attenuation of certain materials
   - Tupperware
   - Microwave Safe cookware
   - Buildings
   - Pine Forrests (Don't Laugh... Pine needles are lambda/4 for 800 MHz)

8. Effect of polarisation on signal strengths... (Most laptop cards are horizontal, and most access points are vertical)

9. Non-line of site... When reflected signals are better than direct signals.

10. Characteristics of the channel... For data... What is the round trip time...
    GSM has big numbers here... 802.11 is much better... But when?

11. Engineered to destruction... Each student pulls apard an old cellphone and identifies the parts... Works out what design decisions were made, how it could be improved. It should be possible to get a lot of old phones for a few bucks each.

Chipsets... Circuit diagrams for many 802.11 cards are available from the FCC :-)

Hope this helps...

---------
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 3. [ss] Re: ss digest: March 12, 2002

From: Jim Ussailis <ussailis@equinox.shaysnet.com>
Date: Wed, 13 Mar 2002 11:11:05 -0500 (EST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: ss digest recipients <ss@lists.tapr.org>
Message-ID: <LYR6751-68258-2002.03.13-10.40.37--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Antennas:

Don't forget to look at circular polarization. It helps in reducing
multipath reflections. It is the even vs odd number of bounces thing.

Jim W1EQO

On Wed, 13 Mar 2002, TAPR Spread Spectrum Special Interest Group digest wrote:

> TAPR Spread Spectrum Special Interest Group Digest for Tuesday, March 12, 2002.
>
> 1. RE: ss demonstration
>
> ----------------------------------------------------------------------
>
> Subject: RE: ss demonstration
> From: "Darryl Smith" <Darryl@radio-active.net.au>
> Date: Tue, 12 Mar 2002 19:18:44 +1100
> X-Message-Number: 1
>
> G'Day
>
> I would look seriously at 802.11 unlicesed transmitters... Which you can
> play with in certain ways... Seeing how they work and do not work....
>
> Some thing foe lab experiments might include
>
>       1. Performance changes with Narrow Band vs. Wide Band noise
>
>       2. Comparison of SS modulation techniques for a given Eb/No
> (802.11 has about 5 mondulation techniequs depending on power.
>
>       3. Affect of noise when antenna gains get increased.
>
>       4. Spectrum Analyser of SS - with the 22 MHz bandwidth...
>
>       5. Antenna Lab... What sort of antennas work the best... See
> what soft of distance you can build a link
>
>       6. Compatibility of Bluetooth Vs. 802.11 Vs. Microwave Ovens...
> [Interesting lab that one]
>
>       7. Attenuation of certain materials
>               Tupperware
>               Microwave Safe cookware
>               Buildings
>               Pine Forrests (Don't Laugh... Pine needles are lambda/4
> for 800 MHz)
>
>       8. Effect of polarisation on signal strengths... (Most laptop
> cards are horizontal, and most access points are vertical)
>
>       9. Non-line of site... When reflected signals are better than
> direct signals.
>
>       10. Characteristics of the channel... For data... What is the
> round trip time...
>               GSM has big numbers here... 802.11 is much better... But

> when?
>
>       11. Engineered to destruction... Each student pulls apard an old
> cellphone and identifies the parts... Works out what design decisions
> were made, how it could be improved. It should be possible to get a lot
> of old phones for a few bucks each.
>
>
> Chipsets... Circuit diagrams for many 802.11 cards are available from
> the FCC :-)
>
> Hope this helps...
>
> ---------
> Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
> Mobile Number 0412 929 634 [+61 4 12 929 634 International]
> Darryl@radio-active.net.au | www.radio-active.net.au
>
>
>
>
>
> ---
>
> END OF DIGEST
>
> ---
> You are currently subscribed to ss as: ussailis@shaysnet.com
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 4. [ss] Reply Roy

From: rv9j@virgilio.it
Date: Thu, 14 Mar 2002 10:33:23 +0100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-68401-2002.03.14-04.05.56--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello
What are you looking for in particular way?
For which kind of application?

Paul

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 5. [ss] spread spectrum modem

From: bdavid1@zahav.net.il
Date: Thu, 14 Mar 2002 15:17:23 +0200
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-68419-2002.03.14-07.49.50--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

i have an spread spectrum modem that i developp
modulation:2kbts
rate :2 kbs
pn:1023
chip rate:2Mchips
work at -28Dbm
synchronization:2secondes
for sattelite communication

i want to insert an ofdm modulation before spreading?
it is possible

---
You are currently subscribed to ss as: lyris.ss@tapr.org

To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 6. [ss] Re: spread spectrum modem

From: "Pablo Guillermo LOZANO" <plozano74@hotmail.com>
Date: Thu, 14 Mar 2002 15:36:46
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-68439-2002.03.14-10.09.17--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello I´m Pablo Guillermo LOZANO, and I´m writting from Argentina, I´m interestin in your developpment, because I do the same, a SS radiomodem, but it doesen´t work fine. I use a Z87200 (a DSSS ASIC Chip). Can you help me??? pleas.

Regards
Pablo LOZANO

>From: bdavid1@zahav.net.il
>Reply-To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
>To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
>Subject: [ss] spread spectrum modem
>Date: Thu, 14 Mar 2002 15:17:23 +0200
>
>i have an spread spectrum modem that i developp
>modulation:2kbts
>rate :2 kbs
>pn:1023
>chip rate:2Mchips
>work at -28Dbm
>synchronization:2secondes
>for sattelite communication
>
>i want to insert an ofdm modulation before spreading?
>it is possible
>
>---
>You are currently subscribed to ss as: plozano74@hotmail.com
>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>

_____
Con MSN Hotmail súmese al servicio de correo electrónico más grande del mundo. http://www.hotmail.com/ES

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 7. [ss] Re: spread spectrum modem

From: "david" <bdavid1@zahav.net.il>
Date: Fri, 15 Mar 2002 07:17:01 +0200
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-68559-2002.03.14-23.52.01--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi what sort of help do you want?

-----Original Message-----
From: bounce-ss-27960@lists.tapr.org
[mailto:bounce-ss-27960@lists.tapr.org]On Behalf Of Pablo Guillermo LOZANO
Sent: Thursday, March 14, 2002 3:37 PM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] Re: spread spectrum modem

Hello I´m Pablo Guillermo LOZANO, and I´m writting from Argentina, I´m interestin in your developpment, because I do the same, a SS radiomodem, but it doesen´t work fine. I use a Z87200 (a DSSS ASIC Chip). Can you help me??? pleas.

Regards
Pablo LOZANO

>From: bdavid1@zahav.net.il
>Reply-To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>

>To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
>Subject: [ss] spread spectrum modem
>Date: Thu, 14 Mar 2002 15:17:23 +0200
>
>i have an spread spectrum modem that i developp
>modulation:2kbts
>rate :2 kbs
>pn:1023
>chip rate:2Mchips
>work at -28Dbm
>synchronization:2secondes
>for sattelite communication
>
>i want to insert an ofdm modulation before spreading?
>it is possible
>
>---
>You are currently subscribed to ss as: plozano74@hotmail.com
>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>

_____
Con MSN Hotmail súmese al servicio de correo electrónico más grande del
mundo. http://www.hotmail.com/ES

---
You are currently subscribed to ss as: bdavid1@zahav.net.il
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 8. [ss] Re: spread spectrum modem

From: "Pablo Guillermo LOZANO" <plozano74@hotmail.com>
Date: Fri, 15 Mar 2002 16:47:49
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-68654-2002.03.15-11.22.33--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello David:

Can you send me a copy of your application???

Regads
Pablo

>From: "david" <bdavid1@zahav.net.il>
>Reply-To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
>To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
>Subject: [ss] Re: spread spectrum modem
>Date: Fri, 15 Mar 2002 07:17:01 +0200
>
>Hi what sort of help do you want?
>
>-----Original Message-----
>From: bounce-ss-27960@lists.tapr.org
>[mailto:bounce-ss-27960@lists.tapr.org]On Behalf Of Pablo Guillermo LOZANO
>Sent: Thursday, March 14, 2002 3:37 PM
>To: TAPR Spread Spectrum Special Interest Group
>Subject: [ss] Re: spread spectrum modem
>
>
>Hello I´m Pablo Guillermo LOZANO, and I´m writting from Argentina, I´m
>interestin in your developpment, because I do the same, a SS radiomodem,
>but
>it doesen´t work fine. I use a Z87200 (a DSSS ASIC Chip). Can you help
>me???
>pleas.
>
>Regards
>Pablo LOZANO
>
>
> >From: bdavid1@zahav.net.il

> >Reply-To: "TAPR Spread Spectrum Special Interest Group"
><ss@lists.tapr.org>
> >To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
> >Subject: [ss] spread spectrum modem
> >Date: Thu, 14 Mar 2002 15:17:23 +0200
> >
> >i have an spread spectrum modem that i developp
> >modulation:2kbts
> >rate :2 kbs
> >pn:1023
> >chip rate:2Mchips
> >work at -28Dbm
> >synchronization:2secondes
> >for sattelite communication
> >
> >i want to insert an ofdm modulation before spreading?
> >it is possible
> >
> >---
> >You are currently subscribed to ss as: plozano74@hotmail.com
> >To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
> >
>
>
>_____
>Con MSN Hotmail súmese al servicio de correo electrónico más grande del
>mundo. http://www.hotmail.com/ES
>
>
>---
>You are currently subscribed to ss as: bdavid1@zahav.net.il
>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>
>---
>You are currently subscribed to ss as: plozano74@hotmail.com
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>


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Con MSN Hotmail súmese al servicio de correo electrónico más grande del
mundo. http://www.hotmail.com/ES


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 9. [ss] Re: spread spectrum modem

From: "david" <bdavid1@zahav.net.il>
Date: Sat, 16 Mar 2002 08:01:44 +0200
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-68872-2002.03.16-00.36.51--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi my application is a mix hardware software dsp application

hardware contains:
 [ NCO five correlators for pn(t-tc) pn(t-tc/2) pn(t) pn(t+tc/2) pn(t+tc)
BPSK demodulator]

the software part on the tms320c67:

phase acquisition & discovery  & agc
phase refine & agc
delay locked loop & agc & carrier recovery
delay locked loop & agc & phase locked loop & viterbi fano decoding

the hardware is an xilinx (vhdl code)

the software write in c&asm(use 5% of the processor)

if you have a specific question about a block send me a question and i try
to help you

best regards

-----Original Message-----
From: bounce-ss-27960@lists.tapr.org
[mailto:bounce-ss-27960@lists.tapr.org]On Behalf Of Pablo Guillermo LOZANO
Sent: Friday, March 15, 2002 4:48 PM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] Re: spread spectrum modem


Hello David:

Can you send me a copy of your application???

Regads
Pablo


>From: "david" <bdavid1@zahav.net.il>
>Reply-To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
>To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
>Subject: [ss] Re: spread spectrum modem
>Date: Fri, 15 Mar 2002 07:17:01 +0200
>
>Hi what sort of help do you want?
>
>-----Original Message-----
>From: bounce-ss-27960@lists.tapr.org
>[mailto:bounce-ss-27960@lists.tapr.org]On Behalf Of Pablo Guillermo LOZANO
>Sent: Thursday, March 14, 2002 3:37 PM
>To: TAPR Spread Spectrum Special Interest Group
>Subject: [ss] Re: spread spectrum modem
>
>
>Hello I´m Pablo Guillermo LOZANO, and I´m writting from Argentina, I´m
>interestin in your developpment, because I do the same, a SS radiomodem,
>but
>it doesen´t work fine. I use a Z87200 (a DSSS ASIC Chip). Can you help
>me???
>pleas.
>
>Regards
>Pablo LOZANO
>
>
> >From: bdavid1@zahav.net.il
> >Reply-To: "TAPR Spread Spectrum Special Interest Group"
><ss@lists.tapr.org>
> >To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
> >Subject: [ss] spread spectrum modem
> >Date: Thu, 14 Mar 2002 15:17:23 +0200
> >
> >i have an spread spectrum modem that i developp
> >modulation:2kbts
> >rate :2 kbs
> >pn:1023
> >chip rate:2Mchips
> >work at -28Dbm
> >synchronization:2secondes
> >for sattelite communication
> >
> >i want to insert an ofdm modulation before spreading?
> >it is possible
> >
> >---
> >You are currently subscribed to ss as: plozano74@hotmail.com
> >To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
> >
>
>
>_________________________________________________________________
>Con MSN Hotmail súmese al servicio de correo electrónico más grande del
>mundo. http://www.hotmail.com/ES
>
>
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>You are currently subscribed to ss as: bdavid1@zahav.net.il
>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>

>---
>You are currently subscribed to ss as: plozano74@hotmail.com
>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>

_____
Con MSN Hotmail súmese al servicio de correo electrónico más grande del
mundo. http://www.hotmail.com/ES

---
You are currently subscribed to ss as: bdavid1@zahav.net.il
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 10. Your confirmation is needed (ok 6751)

From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Fri, 29 Mar 2002 09:43:30 -0600
To: lyris.ss@tapr.org
Message-ID: <LYR6751-71353-2002.03.29-09.43.30--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Your email address 'lyris.ss@tapr.org' has been submitted to be
unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be
unsubscribed.

To confirm that you do want to unsubscribe, reply to this message so that
the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to
unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the
mailing list.

---

Return-Path: <infonet@FL2NY.com>
Received: from FL2NY.com ([211.34.44.130]) by lists.tapr.org with SMTP (Lyris Server version 3.0); Fri,
29 Mar 2002 09:43:24 -0600
Received: from unknown (130.147.248.162)
        by asy100.as122.sol.superonline.com with smtp; 29 Mar 2002 14:11:38 +0100
Received: from n7.groups.yahoo.com ([8.169.18.166])
        by da001d2020.lax-ca.osd.concentric.net with smtp; 29 Mar 2002 18:03:33 -0300
Received: from unknown (55.177.246.151)
        by m10.grp.snv.yahoo.com with NNFMP; 29 Mar 2002 11:55:29 +0300
Reply-To: <infonet@FL2NY.com>
Message-ID: <007e07a17ebc$7687e5b6$0ed28bb1@iwqaab>
From: <infonet@FL2NY.com>
To: ss-request
Subject:
MiME-Version: 1.0
Content-Type: multipart/mixed;
        boundary="----=_NextPart_000_00D7_50C01C3B.C4626E57"
X-Priority: 3 (Normal)
X-MSMail-Priority: Normal
X-Mailer: Microsoft Outlook, Build 10.0.2627
Importance: Normal

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <infonet@FL2NY.com>
Received: from FL2NY.com ([211.34.44.130]) by lists.tapr.org with SMTP (Lyris Server version 3.0); Fri,
29 Mar 2002 09:43:24 -0600
Received: from unknown (130.147.248.162)

        by asy100.as122.sol.superonline.com with smtp; 29 Mar 2002 14:11:38 +0100
Received: from n7.groups.yahoo.com ([8.169.18.166])
        by da001d2020.lax-ca.osd.concentric.net with smtp; 29 Mar 2002 18:03:33 -0300
Received: from unknown (55.177.246.151)
        by m10.grp.snv.yahoo.com with NNFMP; 29 Mar 2002 11:55:29 +0300
Reply-To: <infonet@FL2NY.com>
Message-ID: <007e07a17ebc$7687e5b6$0ed28bb1@iwqaab>
From: <infonet@FL2NY.com>
To: Manager
Subject:  Office Skills Testing Software (5927Ldxp9-860HBTL2921@20)
MiME-Version: 1.0
Content-Type: multipart/mixed;
        boundary="----=_NextPart_000_00D7_50C01C3B.C4626E57"
X-Priority: 3 (Normal)
X-MSMail-Priority: Normal
X-Mailer: Microsoft Outlook, Build 10.0.2627
Importance: Normal

------=_NextPart_000_00D7_50C01C3B.C4626E57
Content-Type: text/plain; charset="iso-8859-1"
Content-Transfer-Encoding: base64

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c3Npb25hbHMNCg0KRmluZCBBZG1pbmlzdHJhdGl2ZSBDYW5kaWRhdGVzIFdo
byBQb3NzZXNzIHRoZSBTa2lsbHMgDQpUaGV5IENsYWltIG9uIFJlc3VtZXMh
DQoNClRlc3QgdGhlaXIgc2tpbGxzIGluOg0KDQoqIEtleWJvYXJkaW5nDQoq
IE1pY3Jvc29mdCBXaW5kb3dzDQoqIFBvd2VyUG9pbnQNCiogV29yZCBwcm9j
ZXNzaW5nDQoqIFNwcmVhZHNoZWV0cw0KKiBEYXRhYmFzZXMNCiogUHJvb2Zy
ZWFkaW5nDQoqIEZpbGluZw0KKiBGaW5hbmNpYWwNCg0KR2V0IGluc3RhbnQg
c2NvcmUgcmVwb3J0cyEgTWFrZSBzdXJlIGNhbmRpZGF0ZXMgaGF2ZSB0aGUg
DQpza2lsbHMgdGhleSBjbGFpbS4NCg0KU2V0IHRpbWUgbGltaXRzIGFuZCBGaW5k
IG91dCBub3Qgb25seSBpZiBqb2IgY2FuZGlkYXRlcyBjYW4gZG8gdGhlIGpvYi
am9iIGJ1dCBhbHNvIGlmIHRoZXkgY2FuIGNvbXBsZXRlIGpvYiB0YXNrcyBp
biBhIHJlYXNvbmFibGUgDQphbW91bnQgb2YgdGltZS4NCg0KQ3VzdG9taXpl
ZCB0ZXN0cyEgQ3JlYXRlIHlvdXIgb3duIHRydWUtZmFsc2UsIG11bHRpcGxl
LWNob2ljZSwgDQpvciBmaWxsLWluLXRoZS1ibGFuayB0ZXN0cy4NCg0KUmVj
ZWl2ZSB5b3VyIEZSRUUgbm8tcmlzaywgMzAtZGF5IGV2YWx1YXRpb24gY29w
eSBieSANCmUtbWFpbGluZyB1cyBhdDogcmVwbHkkQHhtYXJrZXRpbmcub3Jn
DQoNCk9ubHkgZW1wbG95ZXJzIHdpbGwgYmUgYWxsb3dlZCB0aGUgZm9y
IHRlc3Rpbmcgb2ZmaWNlIHNraWxscyANCndpbGwgYmUgc2VudCB0aGUgZXZh
bHVhdGlvbiBjb3B5IQ0KDQpCZSBzdXJlIHRvIGluY2x1ZGU6DQpOYW1lDQpK
b2IgdGl0bGUNCkNvbXBhbnkgbmFtZQ0KU2hpcHBpbmcgYWRkcmVzcyAobm8g
UC5PLiBCb3hlcykNCkNpdHksIHN0YXRlLCB6aXANCkRheXRpbWUgcGhvbmUg
bnVtYmVyDQpFLW1haWwgYWRkcmVzcw0KDQpNYWtlIHN1cmUgdG8gaW5jbHVkZSBu
b24gb2ZmZXIgY29kZTogT0VNNl8wMzAyDQoNCl9fX19fX19fX19fX19fX19f
X19fX19fX19fX19fX19fX19fX19fX19fX18NClVuZGVyIEJp
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bmcgZW1haWwgY2Fubm90IGJlIA0KIGNvbnNpZGVyZWQgU3BhbSBhcyBsb25n
IGFzIHRoZSBzZW5kZXIgaW5jbHVkZXMgY29udGFjdCANCiBpbmZvcm1hdGlv
biBhbmQgYSBtZXRob2Qgb2YgcmVtb3ZhbC4NCl9fX19fX19fX19fX19fX19f
X19fX19fX19fX19fX19fX19fX19fX19fX18NCklmIHlvdSB3b3VsZCBs
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dGVudGlvbjogSHVtYW4gUmVzb3VyY2VzICYgUmVjcnVpdGluZyBQcm9mZXNz
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UG9zc2VzcyB0aGUgU2tpbGxzIA0KVGhleSBDbGFpbSBvbiBSZXN1bWVzIQ0K
DQpUZXN0IHRoZWlyIHNraWxscyBpbjoNCg0KKiBLZXlib2FyZGluZw0KKiBN
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ZGluZw0KKiBGaWxpbmcNCiogRmluYW5jaWFsDQoNCkdldCBpbnN0YW50IHNj
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c2tpbGxzIHRoZXkgY2xhaW0uDQoNClNldCB0aW1lIGxpbWl0cyEgRmluZCBv
dXQgbm90IG9ubHkgaWYgam9iIGNhbmRpZGF0ZXMgY2FuIGRvIHRoZSA0KdGhlIGpv
YiBidXQgYWxzbyBpZiB0aGV5IGNhbiBjb21wbGV0ZSBqb2IgdGFza3MgaW4g
YSByZWFzb25hYmxlIA0KYW1vdW50IG9mIHRpbWUuDQoNCkN1c3RvbWl6ZWQg
dGVzdHMhIENyZWF0ZSB5b3VyIG93biB0cnVlLWZhbHNlLCBtdWx0aXBsZS1j
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ZXN0aW5nIG9mZmljZSBza2lsbHMgDQp3aWxsIGJlIHNlbnQgdGhlIGV2YWx1
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Ty4gQm94ZXMpDQpDaXR5LCBzdGF0ZSwgemlwDQpEYXl0aW1lIHBob25lIG51
bWJlcg0KRS1tYWlsIGFkZHJlc3MNCg0KTWFrZSBzdXJlIHRvIGluY2x1ZGUg
IG9mZmVyIGNvZGU6IE9FTTZfMDMwMg0KDQpfX19fX19fX19fX19fX19fX19f

```
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IGVtYWlsIGNhbm5vdCBiZSANCiBjb25zaWRlcmVkIFNwYW0gYXMgbG9uZyBh
cyB0aGUgc2VuZGVyIGluY2x1ZGVzIGNvbnRhY3QgDQogaW5mb3JtYXRpb24g
YW5kIGEgbWV0aG9kIG9mIHJlbW92YWwuDQpfX19fX19fX19fX19fX19fX19f
X19fX19fX19fX19fX19fX19fX19fX19fDQpJZiB5b3Ugd291bGQgbGlr
ZSB0byBiZSByZW1vdmVkIGZyb20gdGhpcyBlLW1haWwgbGlzdCwgcGxlYXNl
IA0Kc2VuZCBhbiBlLW1haWwgdG86IHJlbW92ZWRAeG1hcmtldGluZy5vcmcg
YW5kIHB1dCAicmVtb3ZlIiANCmluIHRoZSBzdWJqZWN0IGxpbmUuDQo=
```

## 11. Your confirmation is needed (ok 6751)

```
From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Fri, 29 Mar 2002 10:49:18 -0600
To: lyris.ss@tapr.org
Message-ID: <LYR6751-71366-2002.03.29-10.49.18--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain
```

```
Your email address 'lyris.ss@tapr.org' has been submitted to be
unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be
unsubscribed.

To confirm that you do want to unsubscribe, reply to this message so that
the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to
unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the
mailing list.

---

Return-Path: <infonet@FL2NY.com>
Received: from FL2NY.com ([211.114.56.188]) by lists.tapr.org with SMTP (Lyris Server version 3.0); Fri,
 29 Mar 2002 10:49:10 -0600
Received: from [88.235.38.203] by hd.regsoft.net with SMTP; 29 Mar 2002 19:17:23 -0300
Received: from unknown (35.113.226.242)
        by web13708.mail.yahoo.com with esmtp; 29 Mar 2002 12:08:34 +0400
Reply-To: <infonet@FL2NY.com>
Message-ID: <004d83e34cba$1644d6b8$4ed47ec5@icupgx>
From: <infonet@FL2NY.com>
To: ss-request
Subject:
MiME-Version: 1.0
Content-Type: multipart/mixed;
        boundary="----=_NextPart_000_00B4_58B33E6B.A2836D66"
X-Priority: 3 (Normal)
X-MSMail-Priority: Normal
X-Mailer: The Bat! (v1.52f) Business
Importance: Normal

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <infonet@FL2NY.com>
Received: from FL2NY.com ([211.114.56.188]) by lists.tapr.org with SMTP (Lyris Server version 3.0); Fri,
 29 Mar 2002 10:49:10 -0600
Received: from [88.235.38.203] by hd.regsoft.net with SMTP; 29 Mar 2002 19:17:23 -0300
Received: from unknown (35.113.226.242)
        by web13708.mail.yahoo.com with esmtp; 29 Mar 2002 12:08:34 +0400
Reply-To: <infonet@FL2NY.com>
Message-ID: <004d83e34cba$1644d6b8$4ed47ec5@icupgx>
From: <infonet@FL2NY.com>
To: Cust.
Subject: Attention: Human Resources & Recruiting Professionals (3831vPhZ8-811tLdV22@18)
MiME-Version: 1.0
Content-Type: multipart/mixed;
        boundary="----=_NextPart_000_00B4_58B33E6B.A2836D66"
X-Priority: 3 (Normal)
```

```
X-MSMail-Priority: Normal
X-Mailer: The Bat! (v1.52f) Business
Importance: Normal

------=_NextPart_000_00B4_58B33E6B.A2836D66
Content-Type: text/plain; charset="iso-8859-1"
Content-Transfer-Encoding: base64

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byBQb3NzZXNzIHRoZSBTa2lsbHMgDQpUaGV5IENsYWltIG9uIFJlc3VtZXMh
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ZXNzaW5nDQoqIFNwcmVhZHNoZWV0cw0KKiBEYXRhYmFzZXMNCiogUHJvb2Zy
ZWFkaW5nDQoqIEZpbGluZw0KKiBGaW5hbmNpYWwNCg0KR2V0IGluc3RhbnQg
c2NvcmUgcmVwb3J0cyEgTWFrZSBzdXJlIGNhbmRpZGF0ZSBuZWVkIGZvciBp
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ZCB0ZXN0cyEgQ3JlYXRlIHlvdXIgb3duIHRydWUtZmFsc2UsIG11bHRpcGxl
LWNob2ljZSwgDQpvciBmaWxsLWluLXRoZS1ibGFuayB0ZXN0cyAtbm8gb3Vu
ZWl2ZSB5b3VyIEZSRUUgbm8tcmlzaywgMzAtZGF5IGV2YWx1YXRpb24gY29w
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bHVhdGlvbiBjb3B5IQ0KDQpCZSBzdXJlIHRvIGluY2x1ZGU6DQpOYW1lDQpK
b2IgdGl0bGUNCkNvbXBhbnkgbmFtZQ0KU2hpcHBpbmcgYmUgc2VudGZm9y
IHRlc3Rpbmcgb2ZmaWNlIHNraWxscyANCndpbGwgYmUgc2VudCB0aGUgZXZh
bHVhdGlvbiBjb3B5IQ0KDQpCZSBzdXJlIHRvIGluY2x1ZGU6DQpOYW1lDQpK
b2IgdGl0bGUNCkNvbXBhbnkgbmFtZQ0KU2hpcHBpbmcgYmUgc2VudGZm9y
UC5PLiBCb3hlcykNCkNpdHksIHN0YXRlLCB6aXANCkRheXRpbWUgcGhvbmUg
bnVtYmVyDQpFLW1haWwgYWRkcmVzcw0KDQpNYWtlIHN1cmUgeW91IG1lbnRp
b24gb2ZmZXIgY29kZTogT0VNNl8wMzAyDQoNCl9fX19fX19fX19fX19fX19f
X19fX19fX19fX19fX19fX19fX19fX19fX18NClVuZGVyIEJp
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DQogMzAxLCBQYXJhZ3JhcGggKGEpICgyKSAoQykgcGFzc2VkIGJ5IHRoZSAx
MDV0aCBVUyANCiBDb25ncmVzcyBhbnkgZW1haWwgb3IgTWFzcyBNYXJrZXRp
bmcgZW1haWwgY2Fubm90IGJlIA0KIGNvbnNpZGVyZWQgU3BhbSBhcyBsb25n
IGFzIHRoZSBzZW5kZXIgaW5jbHVkZXMgY29udGFjdCANCiBpbmZvcm1hdGlv
biBhbmQgYSBtZXRob2Qgb2YgcmVtb3ZhbC4NCl9fX19fX19fX19fX19fX19f
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c2UgDQpzZW5kIGFuIGUtbWFpbCB0bzogcmVtb3ZlZEB4bWFya2V0aW5nLm9y
ZyBhbmQgcHV0ICJyZW1vdmUiIA0KaW4gdGhlIHN1YmplY3QgbGluZS4NCkF0
dGVudGlvbjogSHVtYW4gUmVzb3VyY2VzICYgUmVjcnVpdGluZyBQcm9mZXNz
aW9uYWxzDQoNCkZpbmQgQWRtaW5pc3RyYXRpdmUgQ2FuZGlkYXRlcyBXaG8g
UG9zc2VzcyB0aGUgU2tpbGxzIA0KVGhleSBDbGFpbSBvbiBSZXN1bWVzIQ0K
DQpUZXN0IHRoZWlyIHNraWxscyBpbjoNCg0KKiBLZXlib2FyZGluZw0KKiBN
aWNyb3NvZnQgV2luZG93cw0KKiBQb3dlclBvaW50DQoqIFdvcmQgcHJvY2Vz
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c2tpbGxzIHRoZXkgY2xhaW0uDQoNClNldCB0aW1lIGxpbWl0cyEgRmluZCBv
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YSByZWFzb25hYmxlIA0KYW1vdW50IG9mIHRpbWUuDQoNCk1c3RvbWl6ZWQg
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X19fX19fX19fX19fX19fX19fX19fDQpVbmRlciBCaWxs
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YW5kIHB1dCAicmVtb3ZlIiANCmluIHRoZSBzdWJqZWN0IGxpbmUuDQo=
```

# April 2002

Original source file: ss.0204
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/ss.0204

## 1. [ss] Please stop it !!!

From: rv9j@virgilio.it
Date: Sat, 6 Apr 2002 11:47:10 +0200
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-72554-2002.04.06-04.20.50--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

It's since some days that I receive into my mail
"SUSPECTED EXECUTABLE FILES" (Virus????)from
this address Roy_R@NSTI.TEC.TN.US written in the
ss list.
I hope that this situation will never happen
anymore.
Regards

Paul

RV9J

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 2. Your confirmation is needed (ok 6751)

From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Sat, 06 Apr 2002 08:53:12 -0600
To: lyris.ss@tapr.org
Message-ID: <LYR6751-72570-2002.04.06-08.53.12--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Your email address 'lyris.ss@tapr.org' has been submitted to be
unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be
unsubscribed.

To confirm that you do want to unsubscribe, reply to this message so that
the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to
unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the
mailing list.

---

Return-Path: <nna@snd.edu.gr>
Received: from ux.snd.edu.gr ([194.219.139.5]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Sat, 06 Apr 2002 08:53:09 -0600
Received: (from nna@localhost)
        by ux.snd.edu.gr (8.9.3/8.9.3) id KAA05318
        for mcme@ux.snd.edu.gr; Fri, 5 Apr 2002 10:55:05 +0300
Date: Fri, 5 Apr 2002 10:55:05 +0300
From: nna@snd.edu.gr
Message-Id: <200204050755.KAA05318@ux.snd.edu.gr>
To: ss-request
subject:

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <nna@snd.edu.gr>
Received: from ux.snd.edu.gr ([194.219.139.5]) by lists.tapr.org with SMTP (Lyris Server version 3.0);

Sat, 06 Apr 2002 08:53:09 -0600
Received: (from nna@localhost)
        by ux.snd.edu.gr (8.9.3/8.9.3) id KAA05318
        for mcme@ux.snd.edu.gr; Fri, 5 Apr 2002 10:55:05 +0300
Date: Fri, 5 Apr 2002 10:55:05 +0300
From: nna@snd.edu.gr
Message-Id: <200204050755.KAA05318@ux.snd.edu.gr>
To: mcme@ux.snd.edu.gr

Subject: WSEAS ECE NEWSLETTER
We would like to remind that the deadline for paper submission
for the WSEAS Conferences in
Andalucia Playa, Chiclana, Cadiz, Spain, June 12-16, 2002 (three
conferences)
2002 WSEAS Int.Conf. on Signal Processing, Robotics and Automation (ISPRA
'02)
2002 WSEAS Int.Conf. on Microwaves, Antennas and Radar Systems (IMARS '02)
2002 WSEAS Int.Conf. on Electronics and Hardware Systems (IEHS'02)
is pretty soon: APRIL 15, 2002
http://www.wseas.org/conferences/2002/spain

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The DEADLINE FOR PAPER SUBMISSION for the:
{
2nd WSEAS Int. Conf. on SIMULATION, MODELLING and OPTIMIZATION (ICOSMO
2002)
2nd WSEAS Int. Conf. on SIGNAL, SPEECH and IMAGE PROCESSING (ICOSSIP 2002)
2nd WSEAS Int. Conf. on MULTIMEDIA, INTERNET and VIDEO TECHNOLOGIES
(ICOMIV 2002)
2nd WSEAS Int. Conf. on ROBOTICS, DISTANCE LEARNING and INTELLIGENT
COMMUNICATION SYSTEMS (ICRODIC 2002)
}

in Skiathos Island, Sept.25-28, Greece, is also soon: APRIL 30, 2002

http://www.wseas.org/conferences/2002/skiathos

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Also we remind the Extended Deadline: May 25, 2002 for
the WSEAS Conferences in Miedzyzdroje, Poland: (Aug.25-30, 2002)
2002 WSEAS Int.Conf. on Global Optical and Wireless Network conference,
(GOWN '02)
(WSEAS Conference on Wireless, Optical and Mobile Communications)
2002 WSEAS Int.Conf. on Nanoelectronics, Nanotechnologies (NN'02)
2002 WSEAS Int.Conf. on ElectroMagnetic Compatibility (EMC'02)

http://www.wseas.org/conferences/2002/miedzyzdroje


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Also the WSEAS Multiconference in Applied Mathematics
Miedzyzdroje, Poland, September 1-5, 2002
has as DEADLINE FOR PAPER SUBMISSION the 15th APRIL, 2002

The multiconference is composed by
* 3rd WSEAS  International Conference: COMPUTER MATHEMATICS - EDUCATION
(CME 2002)
* 3rd WSEAS  International Conference: ALGORITHMS, DISCRETE MATHEMATICS,
SYSTEMS AND CONTROL (ADISC 2001),
* 3rd WSEAS  International Conference: LINEAR ALGEBRA AND APPLICATIONS
(LAA 2002)
* 3rd WSEAS  International Conference: NUMERICAL ANALYSIS AND APPLICATIONS
(NAA 2002)
* 3rd WSEAS  International Conference: DIFFERENTIAL EQUATIONS AND
APPLICATION (DETA 2002)
* 3rd WSEAS  International Conference: OPTIMIZATION AND APPLICATIONS (OA
2002)
* 3rd WSEAS  International Conference: PROBABILITY, STATISTICS,
OPERATIONAL RESEARCH (PSOR 2002)

http://www.wseas.org/conferences/2002/poland

---
4 IMPORTANT  POINTS FOR ALL WSEAS EVENTS

http://www.wseas.org/Calendar.htm

((1))
ALL THE ACCEPTED PAPERS will be published in TWO DIFFERENT INTERNATIONAL
FORA:
a)  in the CD-ROM Proceedings as well as
b)  in the MATHEMATICS International Reference Book
Series of WSES PRESS as Post-Conference Books (Hard cover, velvet paper,
international circulation). These will be different International Editions
(with different ISBN).
This material will be ready at the opening of the Multiconference and will
be distributed to the participants.

((2))
Also SPECIAL ISSUES have been scheduled for the journals
WSEAS TRANSACTIONS ON CIRCUITS
WSEAS TRANSACTIONS ON SYSTEMS
WSEAS TRANSACTIONS ON COMPUTERS
WSEAS TRANSACTIONS ON COMMUNICATIONS
WSEAS TRANSACTIONS ON MATHEMATICS

((3))
You will listen lectures by distinguished and famous scientists
(VIPs in the areas covered by meetings, see for example, above),

((4))
You will attend or participate in social and cultural activities of high
level.
See:   www.wseas.org and click FEEDBACK


* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
You receive the WSEAS newsletter from your Email account: [Email]
If you want to unsubscribe: www.wseas.org/unsubscribe.htm

Best Regards

WSEAS

## 3. [ss] 2002 Digital BASH at Dayton Hamvention

From: "John R. Ackermann" <jra@febo.com>
Date: Tue, 09 Apr 2002 18:17:11 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-73124-2002.04.09-17.53.24--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Going to the Dayton Hamvention?  Then plan to attend the annual Digital*BASH
sponsored by TAPR and the Miami Valley FM Association to be held on Friday,
May 17, 2002!

For reservations, please contact the TAPR office as described below.

---
What?
        An event for the digitally-inclined ham, featuring:
        *  Buffet dinner (Prime Rib, Chicken, and Pasta)
        *  Keynote Address (Speaker to be named)
        *  TAPR special interest group meetings
        *  "Birds of a Feather" gatherings

When?
        Friday evening, May 17, 2002
        Doors open at 7:00 pm; dinner served at 7:30 pm
        Speaker and meetings after dinner


Where?
        Kohler's Banquet Center, 4548 Presidential Way, Kettering
        (39 40.75N, 84 08.43W), about 6 miles SE of downtown Dayton --
        just off of East David Road.  Detailed directions and maps are available
        on the TAPR web site (http://www.tapr.org/tapr/html/Fdayton.maps.html)
        or at the TAPR booth.


How?
        Dinner requires advance registration and payment through TAPR.
        Tickets will be available at the TAPR booth on Friday, though
        we strongly encourage registration <before> Hamvention.  The cost
        is $25.00 per person, tax and tip included.

All amateurs are welcome to attend, enjoy the speaker, and
particpate in the meetings, although only those purchasing a dinner
can eat.

To register, contact:
PACK*BASH
c/o TAPR
8987-309 E. Tanque Verde Road #337
Tucson, AZ  85749-9399

Phone: 972-671-TAPR (8277)
Fax: 972-671-8716
Internet: tapr@tapr.org

Visa/Mastercard Accepted

Who?
PACK*BASH is co-sponsored by TAPR -- Tucson Amateur Packet Radio,
the national leader in digital communication -- and the Miami
Valley FM Association, Dayton's packet radio club.

For more information (including maps), go to
http://www.tapr.org/tapr/html/dayton.html#packetbash, or send email to
tapr@tapr.org.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 4. [ss] The Big Gotcha

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Sat, 13 Apr 2002 11:38:28 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: n8gnj@cq-amateur-radio.com
Message-ID: <LYR6751-73937-2002.04.13-12.12.41--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

In the April 2002 issue of CQ Amateur Radio Steve Stroh, N8GNJ wrote in his
Digital Wireless column....

>The Big Gotcha
>
>Modifying a Part 15 Device, even attaching external antennas, is a violation
>of FCC Part 15 rules.  A Part 15 certification is for the system, not just
>the "radio."  Modifications void the "implied license for this device to
>transmit."

He implies the *only* way around this is to re-classify under Part 97, as we
are allowed to make such modifications...

>>Equipment that has been certified for use in another service may be used
>>on amateur frequencies by a licensed amateur as long as it meets all
>>appropriate standards. (97.315)

I wish this was the case Steve.  In your through reading of FCC rules, you
failed to read all the pertaining sections.  When dealing with any Part 15
device not only do you need to read 15.247, but also parts 15.205, 15.209
and 15.247. So I hope this was just an oversite on your part.

Here is the Part 15 loop hole:

>Section 15.23. "Equipment authorization is not required for devices that
>are not marketed, are not constructed from a kit, and are built in
>quantities of five or less for personal use."

Using Part 15 Devices for Amateur Radio:
http://www.qsl.net/kb9mwr/projects/wireless/plan.html

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 5. [ss] Re: The Big Gotcha

From: Bob Lorenzini <hwm@newportharbornet.com>
Date: Sat, 13 Apr 2002 10:06:43 -0800 (PST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-73961-2002.04.13-13.40.31--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I'm using a pair of rangelan2 units and was wondering if anyone had edited
their firmware to the VK area code themself for part 97 use.

Bob wd6dod

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 6. [ss] The Big Gotcha (2)

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Sat, 13 Apr 2002 13:14:04 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: ss@lists.tapr.org
Message-ID: <LYR6751-73962-2002.04.13-13.47.56--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

In the April 2002 issue of CQ Amateur Radio Steve Stroh, N8GNJ wrote in his
Digital Wireless column....

"if you are able to modify the device in such a way that transmissions are
restricted to the amateur radio segment of the 2,4 GHz band...."  "Since
Lynksys has not, and likely will not, release detailed enough information to
be able to make such a change, "pure" amateur radio use of this device
dosen't seem likely..."

Now I don't think the other one was an oversight.  And you wonder why I have
lost confidence in TAPR..  Get it right, there is nothing worse than
misleading hams.

The Linksys WAP 11 is a DSSS 802.11b device.   All 802.11b devices have 11
*user* settable channels, the first 6 channels have complete amateur overlap.

See:
http://www.qsl.net/kb9mwr/projects/wireless/dssfreq.html

Maybe your windows driver dosen't let you "lock" onto one particular
channel.  Try a different 802.11b driver (they should be interchangeable)
under Linux you can set the channel using "iwconfig" or equivelent.

Using Part 15 Wireless Ethernet Devices for Amateur Radio:
http://www.qsl.net/kb9mwr/projects/wireless/plan.html

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 7. [ss] RE: The Big Gotcha (2)

From: "Steve Stroh" <lists@strohpub.com>
Date: Sat, 13 Apr 2002 12:18:15 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-73972-2002.04.13-14.51.24--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

(Same reply as posted to NetSIG)

Steve:

I'll concede your two stated, and two implied points:
1) I had overlooked the "under five" provisions in the Part 15 rules.
2) I should have been more diligent in my writing and discussed the overlap
between Amateur allocation in 2.4 and Amateur use.
3) I should have looked over the materials posted that you cited, but I
didn't
4) A better job can be done.

I'm not infallible (and don't claim to be) nor am I omnipotent (and don't
claim to be). I made a mistake, and will endeavor to correct it at the next
opportunity, citing your comments and your supporting information.

As to your confidence in TAPR...

TAPR isn't "them". TAPR is what we hams, collectively, choose make of it.
TAPR is a tool, an enabling organization for doing interesting things in
Amateur Radio that can't or won't get accomplished by purely commercial, or
purely grass-roots efforts. TAPR is that middle ground that can put kits
together (and afford to buy parts and keep them in stock as kits, waiting
for orders), take credit card orders, publish books, produce quantities of
CD's, offer high-bandwidth web space and mailing list services, and many
other such roles.

The fact is that no one has chosen to try to make use of TAPR's web pages,
its publications (like actually WRITING an article on this subject), or
numerous other resources to espouse the Amateur Radio use of 802.11. At
most, there have been "suggestions"... or more to the points - complaints /
potshots that "TAPR OUGHT to..."

It's easy to deliver shots from outside - there's little downside to doing
so. It takes more courage to try to get involved.

Thanks,

Steve

--
Steve Stroh  steve@strohpub.com  425-481-0600
Independent Technology Writer
Specializing in Broadband Wireless Internet Access
Focus on Broadband Wireless Internet Access newsletter -
http://www.strohpub.com/focus.htm

> -----Original Message-----
> From: bounce-netsig-4108@lists.tapr.org
> [mailto:bounce-netsig-4108@lists.tapr.org]On Behalf Of Steve Lampereur
> Sent: Saturday, April 13, 2002 11:14
> To: TAPR Networking Special Interest Group
> Cc: ss@lists.tapr.org
> Subject: [netsig] The Big Gotcha (2)
>
>
> In the April 2002 issue of CQ Amateur Radio Steve Stroh, N8GNJ
> wrote in his
> Digital Wireless column....
>
> "if you are able to modify the device in such a way that transmissions are
> restricted to the amateur radio segment of the 2,4 GHz band...."  "Since
> Lynksys has not, and likely will not, release detailed enough
> information to
> be able to make such a change, "pure" amateur radio use of this device
> dosen't seem likely..."
>
> Now I don't think the other one was an oversight.  And you wonder
> why I have
> lost confidence in TAPR..  Get it right, there is nothing worse than
> misleading hams.
>
> The Linksys WAP 11 is a DSSS 802.11b device.  All 802.11b devices have 11
> *user* settable channels, the first 6 channels have complete
> amateur overlap.
>
> See:
> http://www.qsl.net/kb9mwr/projects/wireless/dssfreq.html
>
> Maybe your windows driver dosen't let you "lock" onto one particular
> channel.  Try a different 802.11b driver (they should be interchangeable)
> under Linux you can set the channel using "iwconfig" or equivelent.
>
> Using Part 15 Wireless Ethernet Devices for Amateur Radio:
> http://www.qsl.net/kb9mwr/projects/wireless/plan.html
>
>
> ---
> You are currently subscribed to netsig as: sks-lists@strohpub.com
> To unsubscribe send a blank email to leave-netsig-4108S@lists.tapr.org
>
>

Thanks,

Steve

--
Steve Stroh   steve@strohpub.com  425-481-0600
Independent Technology Writer
Specializing in Broadband Wireless Internet Access
Focus on Broadband Wireless Internet Access newsletter -
http://www.strohpub.com/focus.htm


> -----Original Message-----
> From: bounce-ss-24593@lists.tapr.org
> [mailto:bounce-ss-24593@lists.tapr.org]On Behalf Of Steve Lampereur
> Sent: Saturday, April 13, 2002 11:14
> To: TAPR Spread Spectrum Special Interest Group
> Cc: ss@lists.tapr.org
> Subject: [ss] The Big Gotcha (2)
>
>
> In the April 2002 issue of CQ Amateur Radio Steve Stroh, N8GNJ
> wrote in his
> Digital Wireless column....
>
> "if you are able to modify the device in such a way that transmissions are
> restricted to the amateur radio segment of the 2,4 GHz band...."  "Since
> Lynksys has not, and likely will not, release detailed enough
> information to
> be able to make such a change, "pure" amateur radio use of this device
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> *user* settable channels, the first 6 channels have complete
> amateur overlap.
>
> See:
> http://www.qsl.net/kb9mwr/projects/wireless/dssfreq.html
>
> Maybe your windows driver dosen't let you "lock" onto one particular
> channel.  Try a different 802.11b driver (they should be interchangeable)
> under Linux you can set the channel using "iwconfig" or equivelent.
>
> Using Part 15 Wireless Ethernet Devices for Amateur Radio:
> http://www.qsl.net/kb9mwr/projects/wireless/plan.html
>
>
> ---
> You are currently subscribed to ss as: lists@strohpub.com
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>



---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 8. [ss] RE: [netsig] The Big Gotcha (2)

From: "Mike McCarthy, W1NR" <w1nr@eecorp.com>
Date: Sun, 14 Apr 2002 06:49:05 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: <ss@lists.tapr.org>
Message-ID: <LYR6751-74056-2002.04.14-06.23.01--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

A few things...

   If an 802.11 device is set to use an 'Access Point' it will hunt
until it finds one and set it to the channel of the AP.  If you set it to
'ad-hoc' mode, you must set all of the devices on the network to a
specific channel.  They then communicate among themselves without

relying on an access point.

   In addition, the better AP's (NOT Linksys or SMC, etc.) have a point-to-point or point-to-multi-point mode for campus interconnects. Many of the PtP solutions include high gain directional antenna's and cabling as a package.  The FCC has been getting very strict about getting these 'systems' type accepted under part 15.  They were very lax about it in the early days of 802.11.  Most now use 'reverse' connectors so you can't buy stuff at the local Radio Shack and hook it together.  Another potential problem is that every manufacturer of the wireless cards are required to have a different external antenna jack making patch cords to the 802.11 device even more difficult.

   As for modifications for Ham use, once you modify any device for use on the ham bands, whether it's a part 15, business band, military or otherwise, you automatically reclassify it as a part 97 device under your ham license.  The old classifications no longer apply. Us hams have been doing these modifications since the dawn of time.

   Check out some of this stuff...

        http://www.hyperlinktech.com/web/amplifiers_2400.html

73 de Mike, W1NR

-----Original Message-----
From: bounce-netsig-28629@lists.tapr.org
[mailto:bounce-netsig-28629@lists.tapr.org]On Behalf Of Steve Lampereur
Sent: Saturday, April 13, 2002 2:14 PM
To: TAPR Networking Special Interest Group
Cc: ss@lists.tapr.org
Subject: [netsig] The Big Gotcha (2)

In the April 2002 issue of CQ Amateur Radio Steve Stroh, N8GNJ wrote in his Digital Wireless column....

"if you are able to modify the device in such a way that transmissions are restricted to the amateur radio segment of the 2,4 GHz band...."  "Since Lynksys has not, and likely will not, release detailed enough information to be able to make such a change, "pure" amateur radio use of this device dosen't seem likely..."

Now I don't think the other one was an oversight.  And you wonder why I have lost confidence in TAPR..  Get it right, there is nothing worse than misleading hams.

The Linksys WAP 11 is a DSSS 802.11b device.   All 802.11b devices have 11 *user* settable channels, the first 6 channels have complete amateur overlap.

See:
http://www.qsl.net/kb9mwr/projects/wireless/dssfreq.html

Maybe your windows driver dosen't let you "lock" onto one particular channel.  Try a different 802.11b driver (they should be interchangeable) under Linux you can set the channel using "iwconfig" or equivelent.

Using Part 15 Wireless Ethernet Devices for Amateur Radio:
http://www.qsl.net/kb9mwr/projects/wireless/plan.html

---
You are currently subscribed to netsig as: w1nr@eecorp.com
To unsubscribe send a blank email to leave-netsig-28629J@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 9. [ss] Linksys WAP-11

From: Rolf Sommerhalder <rolf.sommerhalder@alumni.ethz.ch>
Date: Sun, 14 Apr 2002 13:06:22 +0200

To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-74058-2002.04.14-06.38.24--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Mike McCarthy, W1NR wrote in Re: [ss] RE: [netsig] The Big Gotcha (2):

>    In addition, the better AP's (NOT Linksys or SMC, etc.) have a
> point-to-point or point-to-multi-point mode for campus interconnects.

To my surprise, my recently purchased Linksys WAP-11 access point
actually provides point-to-point bridging capability, much like the
Cisco 340 and 350 series for example.

However, I unfortunately purchased only a single WAP-11 during my recent
trip to the US, therefore I am unable to try its bridging. Did anyone
actually try?

Rolf, HB9CWP

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 10. [ss] PCI adapters for wireless cards

From: Mike Murphree <w4lna@knology.net>
Date: Sun, 14 Apr 2002 08:00:11 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-74061-2002.04.14-08.33.40--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I came across a Proxim Skyline 802.11b wireless card at a surplus
outlet recently.   What I need now is a PCI adapter to plug this into
a desktop PC.   Will any manufacturer's adapter work or do I need
a specific one?

TIA,
Mike W4LNA

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 11. [ss] Re: The Big Gotcha

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Sun, 14 Apr 2002 13:37:20 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-74115-2002.04.14-14.11.17--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>I'm using a pair of rangelan2 units and was wondering if anyone had
>edited their firmware to the VK area code themself for part 97 use.
>Bob wd6dod

It's been awhile since I delt with Proxim, but at one time Dave
Koberstein, N9DK told me that Proxim was willing to reprogram the cards
(or sell ones directly) if you supplied a copy of your ham license.

Supposedly they would change the units country code to that of an old
Australian ISM bandplan, that kept its opperation below 2450 MHz.

An attempt was made to reverse engineer the driver:
http://www.qsl.net/n9zia/wireless/lib/index.html

Using Part 15 Wireless Devices for Amateur Radio:
http://www.qsl.net/kb9mwr/projects/wireless/plan.html

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 12. [ss] Re: The Big Gotcha

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Mon, 15 Apr 2002 09:16:50 +1000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-74168-2002.04.14-18.51.09--lyris.ss#tapr.org@lists.tapr.org>

Rendered body type: text/plain

> >I'm using a pair of rangelan2 units and was wondering if anyone had
> >edited their firmware to the VK area code themself for part 97 use.
> >Bob wd6dod
>
> It's been awhile since I delt with Proxim, but at one time Dave
> Koberstein, N9DK told me that Proxim was willing to reprogram
> the cards
> (or sell ones directly) if you supplied a copy of your ham license.
>
> Supposedly they would change the units country code to that of an old
> Australian ISM bandplan, that kept its opperation below 2450 MHz.

Must be old, as our current ISM bandplan allows full (EIRP) power operation
to 2463 MHz, and lower power (200mW EIRP) all the way to 2483 MHz, which I
think extends to channel 13 for 802.11b.  Best to lock systems to a specific
frequency... :)

I was rather amused at this "get it reprogrammed to Australian specs", when
our specs allow a wider frequency range.

---
Outgoing mail has been scanned for viruses
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.336 / Virus Database: 188 - Release Date: 11-Mar-02

This correspondence is for the named person□s use only. It may contain
confidential or legally privileged information or both. No confidentiality
or privilege is waived or lost by any mistransmission. If you receive this
correspondence in error, please immediately delete it from your system and
notify the sender. You must not disclose, copy or rely on any part of this
correspondence if you are not the intended recipient.

Any opinions expressed in this message are those of the individual sender.

---
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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 13. [ss] Re: The Big Gotcha

From: JL <multiplx@gbonline.com>
Date: Mon, 15 Apr 2002 04:34:45 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-74318-2002.04.15-05.08.34--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Must be old, as our current ISM bandplan allows full (EIRP) power operation
> to 2463 MHz, and lower power (200mW EIRP) all the way to 2483 MHz, which I
> think extends to channel 13 for 802.11b.  Best to lock systems to a specific
> frequency... :)
>
> I was rather amused at this "get it reprogrammed to Australian specs", when
> our specs allow a wider frequency range.

  The main purpose for applying the Australian country code on Proxim
gear
  was to allow the cards to operate in the 2.3 GHz band, where amateur
  radio operators could function as the primay user of that spectrum.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 14. [ss] Re: ss digest: April 14, 2002

From: Jim Ussailis <ussailis@equinox.shaysnet.com>
Date: Mon, 15 Apr 2002 11:23:11 -0400 (EDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: ss digest recipients <ss@lists.tapr.org>
Message-ID: <LYR6751-74355-2002.04.15-10.54.01--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

FYI

I found "reverse" SMA connectors the other day. Digi-key
has them, pg 367, Jan-Apr 2002 catalog. BTW, they are no accecptable under
current FCC guidelines for license-free Part 15.

Jim, W1EQO


On Mon, 15 Apr 2002, TAPR Spread Spectrum Special Interest Group digest wrote:

> TAPR Spread Spectrum Special Interest Group Digest for Sunday, April 14, 2002.
>
> 1. RE: [netsig] The Big Gotcha (2)
> 2. Linksys WAP-11
> 3. PCI adapters for wireless cards
> 4. Re: The Big Gotcha
> 5. Re: The Big Gotcha
>
> ----------------------------------------------------------------------
>
> Subject: RE: [netsig] The Big Gotcha (2)
> From: "Mike McCarthy, W1NR" <w1nr@eecorp.com>
> Date: Sun, 14 Apr 2002 06:49:05 -0400
> X-Message-Number: 1
>
> A few things...
>
>    If an 802.11 device is set to use an 'Access Point' it will hunt
> until it finds one and set it to the channel of the AP.  If you set it to
> 'ad-hoc' mode, you must set all of the devices on the network to a
> specific channel.  They then communicate among themselves without
> relying on an access point.
>
>    In addition, the better AP's (NOT Linksys or SMC, etc.) have a
> point-to-point or point-to-multi-point mode for campus interconnects.
> Many of the PtP solutions include high gain directional antenna's and
> cabling as a package.  The FCC has been getting very strict about
> getting these 'systems' type accepted under part 15.  They were very
> lax about it in the early days of 802.11.  Most now use 'reverse'
> connectors so you can't buy stuff at the local Radio Shack and hook
> it together.  Another potential problem is that every manufacturer of
> the wireless cards are required to have a different external antenna
> jack making patch cords to the 802.11 device even more difficult.
>
>    As for modifications for Ham use, once you modify any device for
> use on the ham bands, whether it's a part 15, business band, military
> or otherwise, you automatically reclassify it as a part 97 device
> under your ham license.  The old classifications no longer apply.
> Us hams have been doing these modifications since the dawn of time.
>
>    Check out some of this stuff...
>
>       http://www.hyperlinktech.com/web/amplifiers_2400.html
>
> 73 de Mike, W1NR
>
>
> -----Original Message-----
> From: bounce-netsig-28629@lists.tapr.org
> [mailto:bounce-netsig-28629@lists.tapr.org]On Behalf Of Steve Lampereur
> Sent: Saturday, April 13, 2002 2:14 PM
> To: TAPR Networking Special Interest Group
> Cc: ss@lists.tapr.org
> Subject: [netsig] The Big Gotcha (2)
>
>
> In the April 2002 issue of CQ Amateur Radio Steve Stroh, N8GNJ wrote in his
> Digital Wireless column....
>
> "if you are able to modify the device in such a way that transmissions are
> restricted to the amateur radio segment of the 2,4 GHz band...."  "Since
> Lynksys has not, and likely will not, release detailed enough information to
> be able to make such a change, "pure" amateur radio use of this device
> dosen't seem likely..."
>
> Now I don't think the other one was an oversight.  And you wonder why I have
> lost confidence in TAPR..  Get it right, there is nothing worse than
> misleading hams.
>
> The Linksys WAP 11 is a DSSS 802.11b device.   All 802.11b devices have 11
> *user* settable channels, the first 6 channels have complete amateur
> overlap.

> 
> See:
> http://www.qsl.net/kb9mwr/projects/wireless/dssfreq.html
> 
> Maybe your windows driver dosen't let you "lock" onto one particular
> channel.  Try a different 802.11b driver (they should be interchangeable)
> under Linux you can set the channel using "iwconfig" or equivelent.
> 
> Using Part 15 Wireless Ethernet Devices for Amateur Radio:
> http://www.qsl.net/kb9mwr/projects/wireless/plan.html
> 
> 
> ---
> You are currently subscribed to netsig as: w1nr@eecorp.com
> To unsubscribe send a blank email to leave-netsig-28629J@lists.tapr.org
> 
> 
> 
> 
> 
> ----------------------------------------------------------------------
> 
> Subject: Linksys WAP-11
> From: Rolf Sommerhalder <rolf.sommerhalder@alumni.ethz.ch>
> Date: Sun, 14 Apr 2002 13:06:22 +0200
> X-Message-Number: 2
> 
> Mike McCarthy, W1NR wrote in Re: [ss] RE: [netsig] The Big Gotcha (2):
> 
> >    In addition, the better AP's (NOT Linksys or SMC, etc.) have a
> > point-to-point or point-to-multi-point mode for campus interconnects.
> 
> To my surprise, my recently purchased Linksys WAP-11 access point
> actually provides point-to-point bridging capability, much like the
> Cisco 340 and 350 series for example.
> 
> However, I unfortunately purchased only a single WAP-11 during my recent
> trip to the US, therefore I am unable to try its bridging. Did anyone
> actually try?
> 
> Rolf, HB9CWP
> 
> 
> 
> ----------------------------------------------------------------------
> 
> Subject: PCI adapters for wireless cards
> From: Mike Murphree <w4lna@knology.net>
> Date: Sun, 14 Apr 2002 08:00:11 -0500
> X-Message-Number: 3
> 
> 
> I came across a Proxim Skyline 802.11b wireless card at a surplus
> outlet recently.   What I need now is a PCI adapter to plug this into
> a desktop PC.   Will any manufacturer's adapter work or do I need
> a specific one?
> 
> TIA,
> Mike W4LNA
> 
> ----------------------------------------------------------------------
> 
> Subject: Re: The Big Gotcha
> From: Steve Lampereur <kb9mwr@yahoo.com>
> Date: Sun, 14 Apr 2002 13:37:20 -0500
> X-Message-Number: 4
> 
> >I'm using a pair of rangelan2 units and was wondering if anyone had
> >edited their firmware to the VK area code themself for part 97 use.
> >Bob wd6dod
> 
> It's been awhile since I delt with Proxim, but at one time Dave
> Koberstein, N9DK told me that Proxim was willing to reprogram the cards
> (or sell ones directly) if you supplied a copy of your ham license.
> 
> Supposedly they would change the units country code to that of an old
> Australian ISM bandplan, that kept its opperation below 2450 MHz.
> 
> An attempt was made to reverse engineer the driver:

> http://www.qsl.net/n9zia/wireless/lib/index.html
>
>
> Using Part 15 Wireless Devices for Amateur Radio:
> http://www.qsl.net/kb9mwr/projects/wireless/plan.html
>
>
> ------------------------------------------------------------------------
>
> Subject: Re: The Big Gotcha
> From: Tony Langdon <tlangdon@atctraining.com.au>
> Date: Mon, 15 Apr 2002 09:16:50 +1000
> X-Message-Number: 5
>
> > >I'm using a pair of rangelan2 units and was wondering if anyone had=20
> > >edited their firmware to the VK area code themself for part 97 use.
> > >Bob wd6dod
> >=20
> > It's been awhile since I delt with Proxim, but at one time Dave=20
> > Koberstein, N9DK told me that Proxim was willing to reprogram=20
> > the cards
> > (or sell ones directly) if you supplied a copy of your ham license.
> >=20
> > Supposedly they would change the units country code to that of an old =
>
> > Australian ISM bandplan, that kept its opperation below 2450 MHz.
>
> Must be old, as our current ISM bandplan allows full (EIRP) power =
> operation
> to 2463 MHz, and lower power (200mW EIRP) all the way to 2483 MHz, =
> which I
> think extends to channel 13 for 802.11b.  Best to lock systems to a =
> specific
> frequency... :)
>
> I was rather amused at this "get it reprogrammed to Australian specs", =
> when
> our specs allow a wider frequency range.
>
> ---
> Outgoing mail has been scanned for viruses
> Checked by AVG anti-virus system (http://www.grisoft.com).
> Version: 6.0.336 / Virus Database: 188 - Release Date: 11-Mar-02
> =20
>
> This correspondence is for the named person=92s use only. It may =
> contain
> confidential or legally privileged information or both. No =
> confidentiality
> or privilege is waived or lost by any mistransmission. If you receive =
> this
> correspondence in error, please immediately delete it from your system =
> and
> notify the sender. You must not disclose, copy or rely on any part of =
> this
> correspondence if you are not the intended recipient.
>
> Any opinions expressed in this message are those of the individual =
> sender.
>
>
>
>
> ---
>
> END OF DIGEST
>
> ---
> You are currently subscribed to ss as: ussailis@shaysnet.com
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 15. [ss] Re: The Big Gotcha

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Tue, 16 Apr 2002 08:19:40 +1000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-74389-2002.04.15-17.53.43--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The main purpose for applying the Australian country code on Proxim
gear
  was to allow the cards to operate in the 2.3 GHz band, where amateur
  radio operators could function as the primay user of that spectrum.

Hmm, I must revisit the regs, but I'm not aware of any wireless networking
band below 2.4 GHz here...  As they say, "I could be wrong". :)

---
Outgoing mail has been scanned for Viruses.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.346 / Virus Database: 194 - Release Date: 10/04/2002

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---
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## 16. [ss] Re: The Big Gotcha

From: JL <multiplx@gbonline.com>
Date: Mon, 15 Apr 2002 18:04:01 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-74396-2002.04.15-18.37.42--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

>must revisit the regs, but I'm not aware of any wireless networking
>band below 2.4 GHz here...  As they say, "I could be wrong". :)

  Again:

  Changing the Country Code (CC) in the Proxim firmware from
  United States to Australia allowed the cards to operate in
  the 2.390 to 2.417 GHz United States amateur radio bandplan.
  Why that is, we don't know - It just works.

---
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## 17. [ss] Re: The Big Gotcha

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Tue, 16 Apr 2002 09:27:52 +1000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-74400-2002.04.15-19.16.58--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> >must revisit the regs, but I'm not aware of any wireless networking
> >band below 2.4 GHz here...  As they say, "I could be wrong". :)
>
>   Again:
>
>   Changing the Country Code (CC) in the Proxim firmware from
>   United States to Australia allowed the cards to operate in
>   the 2.390 to 2.417 GHz United States amateur radio bandplan.
>   Why that is, we don't know - It just works.

How old are these devices?  Just looked in the ACA class licence
documentation for spread spectrum and "low interference potential devices"
(i.e. non spread spectrum general purpose, such as video transmitters) and
both state the range as being 2400-2463 or 2483.5 MHz.

Either I've missed a class licence somewhere or it's an old spec, no longer current.  In any case, I'm rather curious...

But FYI...  For spread spectrum devices...  (info from ACA provided for the curious).

General conditions: frequency bands and EIRP limits
4. This class licence is subject to the condition that a spread spectrum device must be operated only:

(a) on a frequency band set out in the following Table; and

(b) with the EIRP set out in the Table opposite to the frequency band.

TABLE
Frequency band
 EIRP

915 MHz - 928 MHz
 Not exceeding 1 W

2400 MHz - 2463 MHz
 Not exceeding 4 W

2463 MHz - 2483.5 MHz
 Not exceeding 200 mW

5725 MHz - 5875 MHz
 Not exceeding 1 W

And for more info for the curious...

http://www.aca.gov.au/legal/licence/class/spread.htm  (spread spectrum devices such as WLANs)

http://www.aca.gov.au/legal/licence/class/lipd.rtf  (general purpose devices)

---
Outgoing mail has been scanned for Viruses.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.346 / Virus Database: 194 - Release Date: 10/04/2002

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## 18. [ss] Re: FHSS reprogramming (was The Big Gotcha)

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Tue, 16 Apr 2002 11:39:25 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-74474-2002.04.16-12.13.25--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I no longer have a copy of the correspondence from Dave N9DK to explain this further. I remember it was pretty short and sweet- he just assured me that it would not hop beyond 2450 MHz after being reprogrammed.  I asked how they where going to do this and he told
me by changing the country code.  My guess is they loaded a special band plan in place of one of the Australian ones.  I do have note here from Barry, VE3JF who also apparently also had some RangeLan2 cards programmed "to hop within the 2400-2450 MHz
range instead of the full ISM band."

Apperently on Proxim gear several different ISM bandplans are loaded into the EEPROM(s), and depending where the device is to be sold they can toggle the country code so that it complies with that countries particular rules.

This toggleing is accomlished through manufacture software.

Sounds like for a few hams Proxim actually reprogammed the EEPROM(s) not
just toggled he country code.

You might be able to toggle a preloaded ISM band plan (yourself) that keeps
hopping within the amateur overlap (or better yet in unshared bandspace), by
reversing the driver.

---
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## 19. [ss] Re: FHSS reprogramming (was The Big Gotcha)

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Wed, 17 Apr 2002 09:44:46 +1000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-74561-2002.04.16-19.18.52--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Apperently on Proxim gear several different ISM bandplans are
> loaded into
> the EEPROM(s), and depending where the device is to be sold
> they can toggle
> the country code so that it complies with that countries
> particular rules.
> This toggleing is accomlished through manufacture software.
>
> Sounds like for a few hams Proxim actually reprogammed the
> EEPROM(s) not
> just toggled he country code.

This is quite possible and would explain the different behaviour. :)
>
> You might be able to toggle a preloaded ISM band plan
> (yourself) that keeps
> hopping within the amateur overlap (or better yet in unshared
> bandspace), by
> reversing the driver.

There is no such thing as "unshared" space here.  The useful part of the
band stops at 2400MHz anyway (2302-2400 was taken away some time ago for MDS
broadcasting/narrowcasting a few years ago. :( ).

---
Outgoing mail has been scanned for Viruses.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.349 / Virus Database: 195 - Release Date: 15/04/2002

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## 20. [ss] Re: FHSS reprogramming (was The Big Gotcha)

From: Barry McLarnon VE3JF <bm@lynx.ve3jf.ampr.org>
Date: Tue, 16 Apr 2002 21:42:53 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-74580-2002.04.16-21.16.56--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On April 16, 2002 12:39 pm, Steve Lampereur wrote:
> I no longer have a copy of the correspondence from Dave N9DK to explain
> this further. I remember it was pretty short and sweet- he just assured me
> that it would not hop beyond 2450 MHz after being reprogrammed.  I asked
> how they where going to do this and he told
> me by changing the country code.  My guess is they loaded a special band
> plan in place of one of the Australian ones.  I do have note here from

> Barry, VE3JF who also apparently also had some RangeLan2 cards programmed
> "to hop within the 2400-2450 MHz
> range instead of the full ISM band."

Yep, I'm still lurking out here. :-)  If I recall correctly, it was an ETSI
(European) country code that they used in my case.  It definitely stayed
within the 2400-2450 MHz range - I verified that with a spectrum analyzer.

> Apperently on Proxim gear several different ISM bandplans are loaded into
> the EEPROM(s), and depending where the device is to be sold they can toggle
> the country code so that it complies with that countries particular rules.
> This toggleing is accomlished through manufacture software.
>
> Sounds like for a few hams Proxim actually reprogammed the EEPROM(s) not
> just toggled he country code.

Could be, but I'm not aware of that being done... sounds a bit unlikely.

> You might be able to toggle a preloaded ISM band plan (yourself) that keeps
> hopping within the amateur overlap (or better yet in unshared bandspace),
> by reversing the driver.

The country code is programmed by special software at the factory... I doubt
if you'll find many clues in the driver on how to do it.

Barry

--
Barry McLarnon  VE3JF   Ottawa, ON
bdm@bdmcomm.ca or barry.mclarnon@crc.ca

---
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## 21. [ss] RE: PCI adapters for wireless cards

From: "Mike McCarthy, W1NR" <w1nr@eecorp.com>
Date: Fri, 19 Apr 2002 23:12:22 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-75327-2002.04.19-22.46.55--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have seen some work and others not.  It seems to depend on both
the PCMCIA to PCI adapter and the radio card.  Good luck.

73 de Mike, W1NR

-----Original Message-----
From: bounce-ss-28630@lists.tapr.org
[mailto:bounce-ss-28630@lists.tapr.org]On Behalf Of Mike Murphree
Sent: Sunday, April 14, 2002 9:00 AM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] PCI adapters for wireless cards

I came across a Proxim Skyline 802.11b wireless card at a surplus
outlet recently.   What I need now is a PCI adapter to plug this into
a desktop PC.   Will any manufacturer's adapter work or do I need
a specific one?

TIA,
Mike W4LNA

---
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---
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## 22. [ss] RE: PCI adapters for wireless cards

From: "jeff millar" <wa1hco@adelphia.net>
Date: Fri, 19 Apr 2002 23:22:39 -0400

To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-75333-2002.04.19-23.37.46--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Just a data point...I couldn't make the Linksys PCI adapter work my 802.11 adapters. It's software only seems to support the LinkSys 802.11 card. And this is after trying rather hard under both Windows and Linux.

jeff, wa1hco

----- Original Message -----
From: "Mike McCarthy, W1NR" <w1nr@eecorp.com>
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Sent: Friday, April 19, 2002 11:12 PM
Subject: [ss] RE: PCI adapters for wireless cards

> I have seen some work and others not. It seems to depend on both
> the PCMCIA to PCI adapter and the radio card. Good luck.
>
> 73 de Mike, W1NR
>
> -----Original Message-----
> From: bounce-ss-28630@lists.tapr.org
> [mailto:bounce-ss-28630@lists.tapr.org]On Behalf Of Mike Murphree
> Sent: Sunday, April 14, 2002 9:00 AM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] PCI adapters for wireless cards
>
>
>
> I came across a Proxim Skyline 802.11b wireless card at a surplus
> outlet recently. What I need now is a PCI adapter to plug this into
> a desktop PC. Will any manufacturer's adapter work or do I need
> a specific one?
>
> TIA,
> Mike W4LNA
>
> ---
> You are currently subscribed to ss as: w1nr@eecorp.com
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>
>
>
> ---
> You are currently subscribed to ss as: JEFF@WA1HCO.MV.COM
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>

---
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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 23. [ss] Digital BASH Update

From: John Ackermann N8UR <jra@febo.com>
Date: Wed, 24 Apr 2002 11:21:33 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-76159-2002.04.24-11.00.09--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

We're very happy to announce that Bdale Garbe, KB0G, will be the keynote speaker at the TAPR/MVFMA Digital BASH on Friday evening at Hamvention.

Bdale is one of the long-time "good guys" in the digital radio and amateur satellite worlds. He was in the middle of the early work on KA9Q's "NET" and "NOS" programs, pioneered megabit-rate packet radio, and in the satellite world was heavily involved in the RUDAK and AO-40 GPS experiments. Back in the Old Days, he was a board member and Vice President of TAPR, and remains one of TAPR's best friends. On a different front, Bdale was just elected as Debian Project Leader, so he now oversees one of the major Linux distributions -- and the one that is by far the most ham-friendly. Bdale works in the Linux development group at HP, and in his spare (?) time does VHF/UHF/microwave contesting and roaming.

Bdale's talk will blend all of these interests into an entertaining and

informative presentation titled "From Bits in the Basement to Debian -- and
Back Again".

You can find more information about the Digital BASH and TAPR's other
Hamvention activities at http://www.tapr.org/tapr/dayton/.

See you there!

73,
John

----
John Ackermann  N8UR  jra@febo.com  http://www.febo.com
President, TAPR  n8ur@tapr.org  http://www.tapr.org

---
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# May 2002

Original source file: ss.0205
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/ss.0205

## 1. [ss] Spring _Packet_Status_Register_ Available Online

From: "John R. Ackermann" <jra@febo.com>
Date: Thu, 02 May 2002 20:26:04 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-77560-2002.05.02-20.03.28--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

As the subject says... the new issue of TAPR's journal, the
_Packet_Status_Register_, is now available online. You can go to
http://www.tapr.org/tapr/html/Fpsr.html, or obtain it via ftp from
ftp://ftp.tapr.org/psr/Spring_83_2002.pdf. You'll need Adobe Acrobat or
other PDF file reader to view the document.

Stan Horzepa, WA1LOU, has taken the reins as the PSR's editor, and I'd like
to thank him for his great work on this issue. Please send comments,
suggestions, or -- best of all -- articles to Stan at psr@tapr.org.

73,
John N8UR

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 2. Your confirmation is needed (ok 6751)

From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Fri, 03 May 2002 22:09:39 -0600
To: lyris.ss@tapr.org
Message-ID: <LYR6751-77723-2002.05.03-22.09.39--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Your email address 'lyris.ss@tapr.org' has been submitted to be
unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be
unsubscribed.

To confirm that you do want to unsubscribe, reply to this message so that
the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to
unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing. You will be kept on the
mailing list.

---

Return-Path: <none_reply@snd.edu.gr>
Received: from ux.snd.edu.gr ([194.219.139.5]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Fri, 03 May 2002 22:09:21 -0600
Received: from explore (explore.wseas.org [194.219.139.7])
        by ux.snd.edu.gr (8.9.3/8.9.3) with SMTP id NAA27547
        for <newsletter_April11_2002@ux.snd.edu.gr>; Thu, 11 Apr 2002 13:39:21 +0300
Message-ID: <001a01c1e147$03d43110$078bdbc2@wseas.org>
From: "WSEAS NEWSLETTER" <none_reply@snd.edu.gr>
To: ss-request
Date: Thu, 11 Apr 2002 13:52:41 +0300
MIME-Version: 1.0
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        type="multipart/alternative";
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X-Priority: 3
X-MSMail-Priority: Normal
X-Mailer: Microsoft Outlook Express 5.00.2314.1300
X-MimeOLE: Produced By Microsoft MimeOLE V5.00.2314.1300
subject:

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm

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end

# This is the text of the message that triggered the action:

Return-Path: <none_reply@snd.edu.gr>
Received: from ux.snd.edu.gr ([194.219.139.5]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Fri, 03 May 2002 22:09:21 -0600
Received: from explore (explore.wseas.org [194.219.139.7])
        by ux.snd.edu.gr (8.9.3/8.9.3) with SMTP id NAA27547
        for <newsletter_April11_2002@ux.snd.edu.gr>; Thu, 11 Apr 2002 13:39:21 +0300
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From: "WSEAS NEWSLETTER" <none_reply@snd.edu.gr>
To: <Undisclosed-Recipient:@ux.snd.edu.gr;>
Subject:
Date: Thu, 11 Apr 2002 13:52:41 +0300
MIME-Version: 1.0
Content-Type: multipart/related;
        type="multipart/alternative";
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X-Priority: 3
X-MSMail-Priority: Normal
X-Mailer: Microsoft Outlook Express 5.00.2314.1300
X-MimeOLE: Produced By Microsoft MimeOLE V5.00.2314.1300

This is a multi-part message in MIME format.

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  WSEAS ICOSMO, ICOSSIP, ICOMIV and ICRODIC 2002
      Skiathos Island, GREECE, September 12-16, 2002
      http://www.wseas.org



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            =20
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OPTIMIZATION (ICOSMO 2002)
              a.. 2nd WSEAS Int. Conf. on SIGNAL, SPEECH and IMAGE =
PROCESSING (ICOSSIP 2002)
              a.. 2nd WSEAS Int. Conf. on MULTIMEDIA, INTERNET and VIDEO =
TECHNOLOGIES (ICOMIV 2002)
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and INTELLIGENT COMMUNICATION SYSTEMS (ICRODIC 2002)



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            CONFERENCE PLACE: Skiathos Island, Greece
              =20


      Deadline for paper submission, APRIL 30,  2002

    =20

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      WSES Sector of Electrical Engineering, WSES Sector of Mechanical =
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Engineering, WSES Sector of Aerospace Engineering, WSES Soft Computing =
Technical Committee, WSES Automatic Control Technical Committee, WSES =
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Instrumentation and Measurement Technical Committee. WSES Electronics =
Technical Committee, WSES Circuits and Systems Committee,

FOUR IMPORTANT POINTS THAT YOU MUST NOTE! ! !=20
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((1)) In WSEAS Conferences all the accepted papers are =
simultaneously published in two different international fora:
in
Proceedings + Luxurious International Post-Conference Books
or =20
in
Proceedings + WSEAS Transactions:
WSEAS TRANSACTIONS ON CIRCUITS
WSEAS TRANSACTIONS ON SYSTEMS
WSEAS TRANSACTIONS ON COMMUNICATIONS
WSEAS TRANSACTIONS ON COMPUTERS=20
WSEAS TRANSACTIONS ON MATHEMATICS=20

((2)) Skiathos. Skiathos is a beautiful, wooded island, far =
greener than one would expect a Greek island to be, which has between 60 =
& 70 fine sandy beaches, many of which have not become overcrowded & =
some of which can be virtually empty, even in the height of summer. The =
environment is incredibly varied & can range from hidden, wooded valleys =
(like our own in Zorbathes) to Monasteries set against a backdrop of =
barren rock, from shallow beaches with pastures behind to plunging =
cliffs with beaches nestling below them, only accessible by boat. There =
are several offshore islands which are worth visiting and where you will =
find beaches with less people on them than the main island ones.=20

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International=20
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      &amp;amp; some of which can be virtually empty, even in the height of =
summer.=20
      The environment is incredibly varied &amp;amp; can range from hidden, =
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backdrop=20
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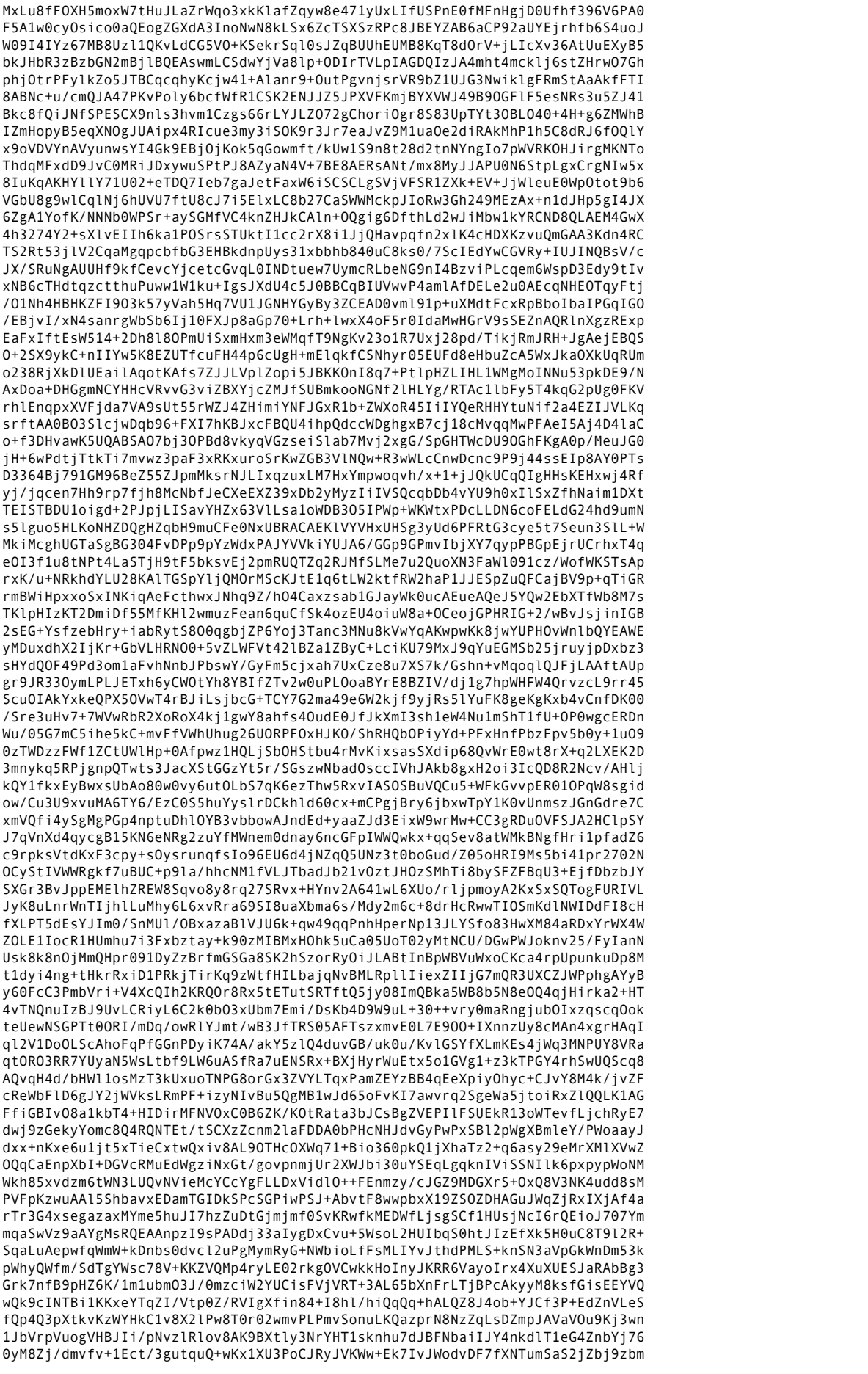

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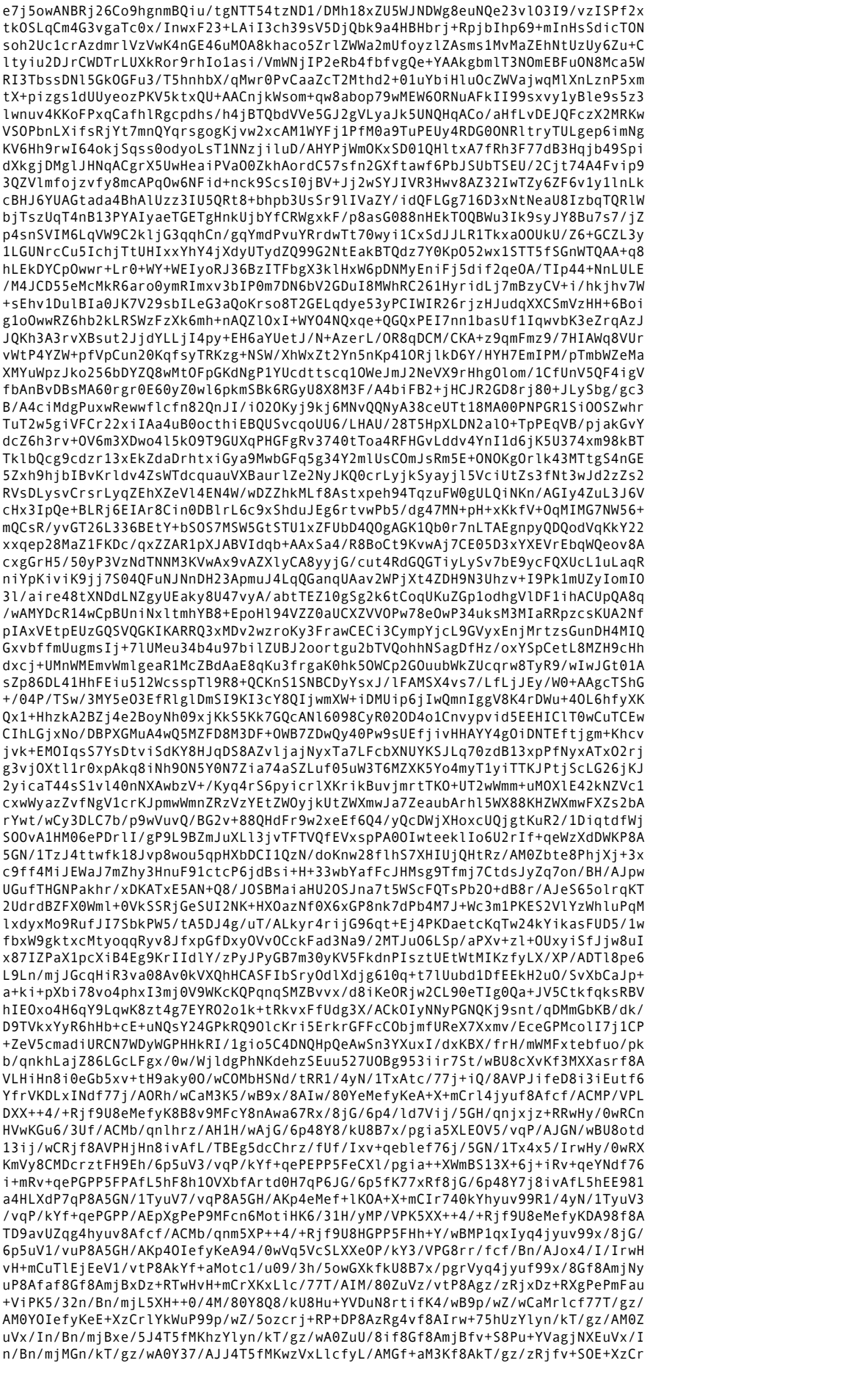
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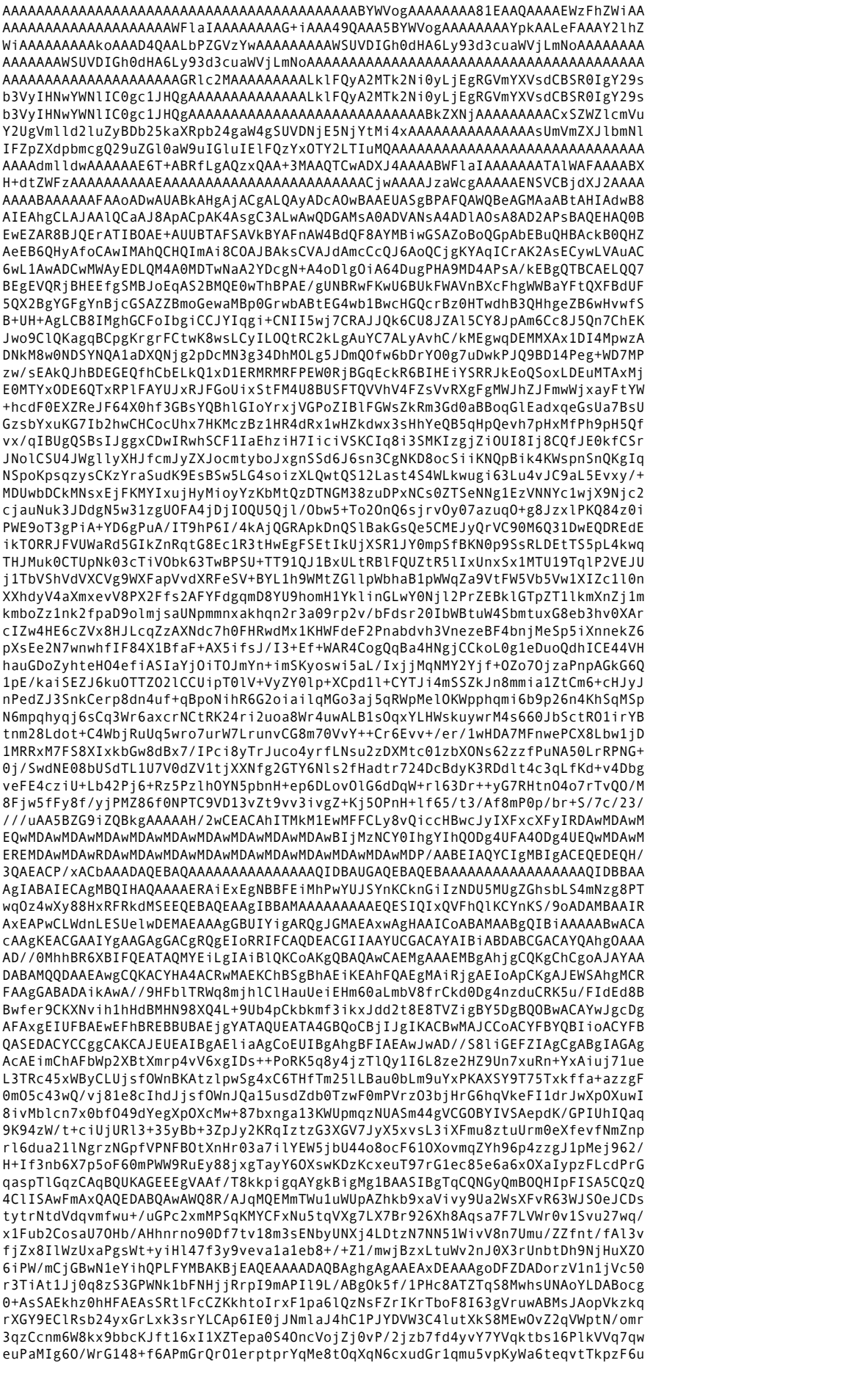
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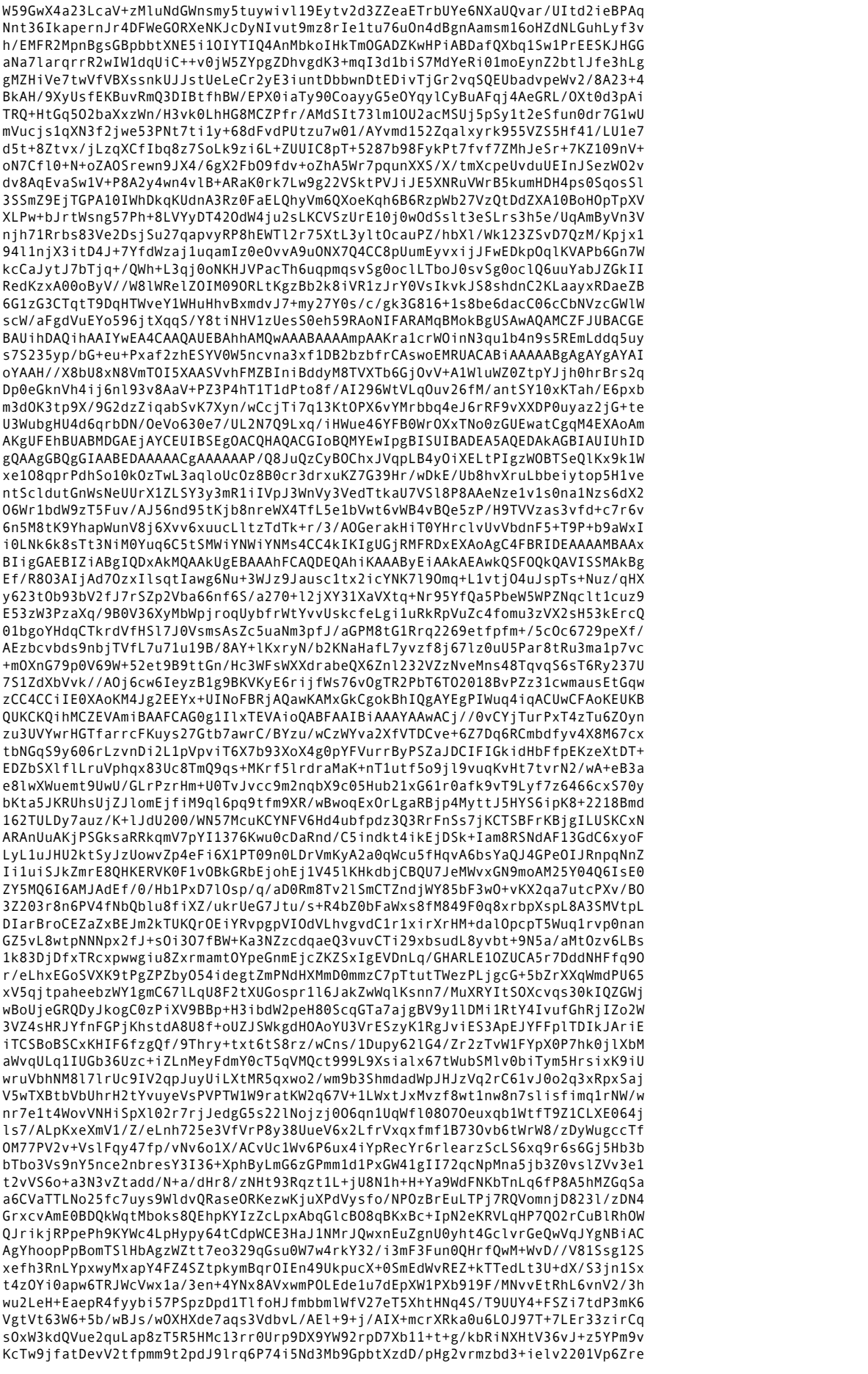
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t4zOYi0apw6TRJWcVwx1a/3en+4YNx8AVxwmPOLEde1u7dEpXW1PXb919F/MNvvEtRhL6vnV2/3h
wu2LeH+EaepR4fyybi57PSpzDpd1TlfoHJfmbbmlWfV27eT5XhtHNq4S/T9UUY4+FSZi7tdP3mK6
VgtVt63W6+5b/wBJs/wOXHXde7aqs3VdbvL/AEl+9+j/AIX+mcrXRka0u6LOJ97T+7LEr33zirCq
sOxW3kdQVue2quLap8zT5R5HMc13rr0Urp9DX9YW92rpD7Xb11+t+g/kbRiNXHtV36vJ+z5YPm9v
KcTw9jfatDevV2tfpmm9t2pdJ9lrq6P74i5Nd3Mb9GpbtXzdD/pHg2vrmzbd3+ielv2201Vp6Zre

```
3h84cG7oT6kR51f7f0Zr1T2ZzwBZEjRtgPDImS0KNQAzbb3rUyf6n2ZzvDA0onBNXHtrepp15Suw
cr5rFpZeScMw4kmXVmOXTrWrs3mzN205ENvMTa4Gow0rY0s00ZxhKL2EnhYaMUOq4Gt9tVfiMqYu
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+UDP8ICI/9bysHliyG+EDdbLrMnS0QJrHAbQnPATxzKEmE8ABAUozJ1CfjDxsAzeOAKAzQiiokIj
MccSYgIqcIJkTxGlIAnA23+MUYg/EFHEpNp+IiYLnCCByk8Gd21vVdXqm1o6lK/Z/L73z273Xzny
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E1bM2lxBlSsuIHdtYMgh4vAGmsSYbyNadXPj5JROp5DrFV4zZWVsGjC1IxIqpj4CocJyXW6axx9E
zmGQUt3UosJNNjh2x4GOWAg2beaf7P8ADIU5cAicBQo8ZUKyh5yUsjP4Ssyi9UYA7PN5EtTkNVlx
BEXMZMVVZ55eH+YPQ0ssPO/qFWayS/L5UEU7TkTMf+RFruccyZnMQDeJrVtr8RjgCtBYjfBYsasq
vV8YxkprVxwMxal2bbZDeplacYE6QaEDG1BBRcwGZIQA08ZGhZMaTmAqkaJcGD2bJTGAbean2jOj
RVWEZG1lpWJL0pLpM77mcPh7xz+W/gXaeKMtSzCyfB/tkaZOmYxujV0lp8UC282+zXw7opWwxAzl
tFYrDgbrTmTbcTwSJViO7Xjy8P5v7oB+HsAKP//X5opDxIstvT1meWBy/wC23pWW3GLw9HtnNuKi
7LleV536BzAaz+6a044g4MwOjLXDjmSQARooKbx4GIEG7yJMgKNVGPSIzAC3AQiAA0WAKY8RmAHQ
4nDP4wW1Sc4EG/5ifzGQAb14zl4d0S8vEZABvVVjFmi8WRyARXW1NscAtKzxXp/7xyAQdlc+rl6I
tzTwz+McgD7G67SLtkcoFG/EbSOcAO3baSfHzzLcjh4fxDnAmfKuhxpWf7JOGMmIFRfEEQBobcDV
+I5AM6uO+mqMfDq3MLT+A5wM4a1sJSZgbZa8RfCZgBrwNXlhkcoE0dROJzgBtaIMyQLiqGo4kAUb
tKcGejy/3eldXzm75G1u/JbX2vzH2+6eOBjVe1a267Y109ru9Lr1Ov8AJdx8p8z3/wDLOB6uJyAT
P6q6Fj8PkiZgBUdOH4SlGHh1DkAg7HlhkT1YOUArqcRhmTC4e0c4Fwehj+QDzwMj/9k=

------=_NextPart_000_0014_01C1E160.2637B6A0--
```

## 3. Your confirmation is needed (ok 6751)

```
From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Mon, 20 May 2002 03:28:34 -0600
To: lyris.ss@tapr.org
Message-ID: <LYR6751-79829-2002.05.20-03.28.34--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain
```

```
Your email address 'lyris.ss@tapr.org' has been submitted to be
unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be
unsubscribed.

To confirm that you do want to unsubscribe, reply to this message so that
the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to
unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the
mailing list.

---

Return-Path: <WebConference@ananzi.co.za>
Received: from  ([211.190.11.39]) by lists.tapr.org with SMTP (Lyris Server version 3.0); Mon, 20 May
2002 03:28:22 -0600
Received: from [212.187.21.167] by cafe1.axesstelecom.com (NTMail 6.00.0014/XR0740.00.e4a0aee2) with
ESMTP id oscbcaaa for leave-ss-6751t@lists.tapr.org; Mon, 20 May 2002 16:14:20 +0900
Message-ID: <00006e4705ac$00001ee6$00000736@analytik.analytikerna.se>
To: ss-request
From: "Customer Service" <WebConference@ananzi.co.za>
Subject:
Date: Mon, 20 May 2002 00:14:35 -1900
MIME-Version: 1.0
Content-Type: text/html;
        charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable
X-Mailer: Microsoft Outlook Express

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <WebConference@ananzi.co.za>
Received: from  ([211.190.11.39]) by lists.tapr.org with SMTP (Lyris Server version 3.0); Mon, 20 May
2002 03:28:22 -0600
Received: from [212.187.21.167] by cafe1.axesstelecom.com (NTMail 6.00.0014/XR0740.00.e4a0aee2) with
ESMTP id oscbcaaa for leave-ss-6751t@lists.tapr.org; Mon, 20 May 2002 16:14:20 +0900
Message-ID: <00006e4705ac$00001ee6$00000736@analytik.analytikerna.se>
```

```
To: <WebConference@ananzi.co.za>
From: "Customer Service" <WebConference@ananzi.co.za>
Subject: Frustrated Watching The Stock Market?
Date: Mon, 20 May 2002 00:14:35 -1900
MIME-Version: 1.0
Content-Type: text/html;
        charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable
X-Mailer: Microsoft Outlook Express

<html>
<head>
  <title>Secured Investements
  </title>
</head>
<body><font face=3D"Times, New Roman">
<p>
<center>
<table width=3D"625" border=3D0>
  <tbody>
  <tr>
    <td align=3D"center"><b><font color=3D#000033 size=3D6>Earn 15%-300% I=
nterest On Your Money</B></font><br>
  <font color=3D#ff0000 size=3D5><b>GUARANTEED</b> BY THE GOVERNMENT!
  </font></center></table></tbody></tr></td>
<p>
<table width=3D"500" border=3D0>
  <tbody>
  <tr>
    <td align=3D"center"><font color=3D#000033 size=3D4><b><u>Government S=
ecured Tax Cerificates Provide:</u>
    </p></tr></td></font></b>
<p>
<table width=3D"510" border=3D0>
  <tbody>
  <tr>
    <td align=3D"left"><font color=3D#000033 size=3D3>
<li>The highest guaranteed interest returns compared to any other investme=
nt.
<li>A return up to 100 times your money backed by government secured prope=
rty.
<li>Security in your investment that the stock market cannot compare to.
<li>Real estate for pennies on the dollar!
</p></table></tbody></tr></td></font></li>
<p>
<table width=3D"450" border=3D0>
  <tbody>
  <tr>
    <td align=3D"left"><font color=3D#000033 size=3D4><b>America's largest=
 single source
  of information/education for the government tax industry.  Celebrating o=
ver
  12 years of providing quality, leading edge education for the serious en=
trepreneur & investor.
</p></table></tbody></tr></td></font></b>
<P>
<CENTER>
<TABLE width=3D"530" border=3D0>
  <TBODY>
  <TR>
    <TD align=3D"middle"><FONT color=3D#000033 size=3D4><B>Receive your</f=
ont></b><FONT color=3D#ff0000 size=3D4>
  <b>FREE</b></font><FONT color=3D#000033 size=3D4><b> video of </b><FONT =
color=3D#ff0000 size=3D4>"INSIDER SECRETS OF INVESTING
  IN GOVERNMENT SECURED TAX CERTIFICATES."</FONT><br>
  <Font size=3D3 color=3D#000033>(Over 90 min. of inside strategies, a $39=
95 value)</font></b></tbody><TR></TABLE>
<br>
<p align=3D"center">
<table width=3D250 border=3D0>
  <tbody>
  <tr>
    <td align=3D"center"><font color=3D#000033><b>Fill out the <i>no oblig=
ation</i> form below for more information.
    </table></tbody></tr></td></font></b></P>
<P>
<TABLE width=3D"400" border=3D0>
  <TBODY>
  <TR>
```

```
    <TD align=3D"center"><FONT color=3D#000033 size=3D2>Required Input Fie=
ld</font><font color=3D#ff0000
    size=3D2>*</FONT></P></TD></TR></TBODY></TABLE>
<P>
<TABLE cellSpacing=3D0 borderColorDark=3D#333300 cellPadding=3D3 width=3D6=
00
borderColorLight=3D#ffffcc>
  <TBODY>
  <TR>
    <TD align=3D"middle">
      <FORM action=3Dmailto:inbocks_tg2@yahoo.com?subject=3DInvestment_Inq=
uiry
      method=3Dpost encType=3Dtext/plain>
      <TABLE width=3D"100%">
        <TBODY>
        <TR>
          <TD align=3D"right" width=3D"50%"><font face=3D"Times, New Roman=
"
            color=3D#000033 size=3D2>Name</FONT>
            <FONT color=3D#ff0000 size=3D2>*</FONT></TD>
          <TD><INPUT name=3DNAME></TD></TR>
        <TR>
          <TD align=3D"right" width=3D"50%"><font face=3D"Times, New Roman=
"
            color=3D#000033 size=3D2>State</FONT>
            <FONT color=3D#ff0000 size=3D2>*</FONT></TD>
          <TD><INPUT size=3D2 name=3DState></TD></TR>
        <TR>
          <TD align=3D"right" width=3D"50%"><font face=3D"Times, New Roman=
"
            color=3D#000033 size=3D2>Day Phone</FONT>
            <FONT color=3D#ff0000 size=3D2>*</FONT></TD>
          <TD><INPUT name=3DDay Phone></TD></TR>
        <TR>
          <TD align=3D"right" width=3D"50%"><font face=3D"Times, New Roman=
"
            color=3D#000033 size=3D2>Night Phone</FONT></TD>
          <TD><INPUT name=3DNight Phone></TD></TR>
        <TR>
          <TD align=3D"right" width=3D"50%"><font face=3D"Times, New Roman=
"
            color=3D#000033 size=3D2>Best time to contact</FONT></TD>
          <TD width=3D"56%"><FONT color=3D#000000><SELECT size=3D1 name=3D=
Best time to contact>
              <OPTION selected></OPTION> <OPTION
              value=3DMorning>Morning</OPTION> <OPTION value=3DAfternoon>A=
fternoon</OPTION>
              <OPTION value=3DEvening>Evening</OPTION>
              </SELECT></FONT></TD></TR>
        <TR>
          <TD align=3D"right" width=3D"50%"><font face=3D"Times, New Roman=
"
            color=3D#000033 size=3D2>E-mail Address</FONT>
            <FONT color=3D#ff0000 size=3D2>*</FONT></TD>
          <TD><INPUT name=3DE-mail Address></TD></TR>
        <TR>
          <TD width=3D"50%">
          <DIV align=3D"right"><font face=3D"Times, New Roman"
            color=3D#000033 size=3D2>Objective</FONT></DIV></TD>
          <TD width=3D"56%"><FONT color=3D#000000><SELECT size=3D1 name=3D=
Objective>
              <OPTION selected></OPTION> <OPTION
              value=3DSecured_Investments>Secured Investments</OPTION> <OP=
TION value=3DBusiness_Opp>Business Opp</OPTION>
              <OPTION value=3DNew_Career>New Career</OPTION><OPTION value=3D=
All_of_the_Above>All of the Above</OPTION>
              </SELECT></FONT></TD></TR></tbody></table>
      <P><INPUT type=3Dsubmit value=3D"Submit Information" name=3Dsubmit>
    </FORM></P></TD></TR></TBODY></TABLE>
<br><br>
<p>
<TABLE width=3D475 border=3D0>
  <TBODY>
  <TR>
    <TD align=3Dmiddle><FONT color=3D000000 size=3D2><B>*All tax liens and=
 deeds directly support local
      fire departments, police departments, schools, roads, and hospitals.=
  Thank you for your interest and support.</b><br>
      To be removed, please
```

<A href="http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/3D"mailto:d_lete97@eudoramail.com?subject=3DRemove_Investmen="
t">click
here</A></FONT>.</FONT></TD></TR></TBODY></TABLE></P></CENTER>
</BODY></HTML>

## 4. Want an Investment Backed By Real Property?

From: "E-Business News" <jzlin@bezeq.co.il>
Date: Mon, 20 May 2002 07:12:11 -1900
To: <jzlin@bezeq.co.il>
Message-ID: <000044754038$00006c11$00007fc9@urano.univates.br>
Rendered body type: text/html

Secured Investements

Earn 15%-300% Interest On Your Money

GUARANTEED BY THE GOVERNMENT!

Government Secured Tax Cerificates Provide:

The highest guaranteed interest returns compared to any other investment.

A return up to 100 times your money backed by government secured property.

Security in your investment that the stock market cannot compare to.

Real estate for pennies on the dollar!

America's largest single source
of information/education for the government tax industry. Celebrating over
12 years of providing quality, leading edge education for the serious entrepreneur & investor.

Receive your
FREE video of "INSIDER SECRETS OF INVESTING
IN GOVERNMENT SECURED TAX CERTIFICATES."

(Over 90 min. of inside strategies, a $40 value)

Fill out the no obligation form below for more information.

Required Input Field*

Name
*

State
*

Day Phone
*

Night Phone

Best time to contact

Morning Afternoon
Evening

E-mail Address
*

Objective

Secured Investments Business Opp
New CareerAll of the Above

*All tax liens and deeds directly support local
fire departments, police departments, schools, roads, and hospitals. Thank you for your interest and
support.

To be removed, please
click
here <http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/3D"mailto:d_lete105
@eudoramail.com?subject=Remove_Investme=>.

## 5. Conference Calls For Less

From: "Customer Service" <cgarner@ax.ibase.org.br>
Date: Mon, 20 May 2002 22:59:11 -1900
To: <cgarner@ax.ibase.org.br>
Message-ID: <000037136e2f$0000440f$000030aa@backup.mail.unisource.nl>
Rendered body type: text/html

Take Control Of Your Conference Calls

Crystal Clear
Conference Calls
Only 18 Cents Per Minute!

(Anytime/Anywhere)

No setup fees

No contracts or monthly fees

Call anytime, from anywhere, to anywhere

Connects up to 100 Participants

International Dial In 18 cents per minute

Simplicity in set up and administration

Operator Help available 24/7

Get the best
quality, the easiest to use, and lowest rate in the
industry.

If you like saving money, fill
out the form below and one of our consultants will contact
you.

Required Input Field*

Name*

Web
Address

Company
Name*

State*

Business
Phone*

Home
Phone

Email
Address*

Type of
Business

ÿFFFFA9 1999-2002 CCFL
To be removed from our distribution lists, please
Click
here. <http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/3D"mailto:d_lete10
9@eudoramail.com?subject=Remove_Conferen=>.

## 6. Your confirmation is needed (ok 6751)

From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Tue, 21 May 2002 17:17:39 -0600
To: lyris.ss@tapr.org
Message-ID: <LYR6751-80268-2002.05.21-17.17.39--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Your email address 'lyris.ss@tapr.org' has been submitted to be
unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be
unsubscribed.

To confirm that you do want to unsubscribe, reply to this message so that

the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to
unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the
mailing list.

---

Return-Path: <mavroapostolos@yahoo.gr>
Received: from mailsrv.otenet.gr ([195.170.0.5]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
 Tue, 21 May 2002 17:17:36 -0600
Received: from yahoo.gr (athe535-a084.otenet.gr [62.103.188.84])
        by mailsrv.otenet.gr (8.12.3/8.12.3) with SMTP id g4LLg6ZQ019625
        for <leave-ss-6751t@lists.tapr.org>; Wed, 22 May 2002 00:42:06 +0300 (EEST)
Message-Id: <200205212142.g4LLg6ZQ019625@mailsrv.otenet.gr>
From: "Mavroapostolos" <mavroapostolos@yahoo.gr>
To: ss-request
Subject:
Sender: "Mavroapostolos" <mavroapostolos@yahoo.gr>
Mime-Version: 1.0
Content-Type: text/plain; charset="ISO-8859-1"
Date: Thu, 23 May 2002 22:50:05 +0300
Content-Transfer-Encoding: 8bit

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <mavroapostolos@yahoo.gr>
Received: from mailsrv.otenet.gr ([195.170.0.5]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
 Tue, 21 May 2002 17:17:36 -0600
Received: from yahoo.gr (athe535-a084.otenet.gr [62.103.188.84])
        by mailsrv.otenet.gr (8.12.3/8.12.3) with SMTP id g4LLg6ZQ019625
        for <leave-ss-6751t@lists.tapr.org>; Wed, 22 May 2002 00:42:06 +0300 (EEST)
Message-Id: <200205212142.g4LLg6ZQ019625@mailsrv.otenet.gr>
From: "Mavroapostolos" <mavroapostolos@yahoo.gr>
To: <leave-ss-6751t@lists.tapr.org>
Subject: EXPRESS MESSAGE: WSEAS Conferences ISPRA, IMARS, IEHS 2002. Andalucia Beach, Cadiz, Spain, June
 12-16. The accepted papers WILL BE PUBLISHED in the proceedings, WSEAS Books/Journals.
Sender: "Mavroapostolos" <mavroapostolos@yahoo.gr>
Mime-Version: 1.0
Content-Type: text/plain; charset="ISO-8859-1"
Date: Thu, 23 May 2002 22:50:05 +0300
Content-Transfer-Encoding: 8bit

Dear WSEAS Members and Friends,

The following important conferences (organized by WSEAS  and WSEAS Spanish
Chapter)

*  2002 WSEAS Int.Conf. on SIGNAL PROCESSING, ROBOTICS AND AUTOMATION
(ISPRA '02)
*  2002 WSEAS Int.Conf. on MICROWAVES, ANTENNAS AND RADAR SYSTEMS (IMARS
'02)
*  2002 WSEAS Int.Conf. on ELECTRONICS AND HARDWARE SYSTEMS (IEHS'02)

will be held in Andalucia Beach, Chiclana, Cadiz, Spain, June 12-16, 2002

DEADLINE:  Send, now, the abstract of your paper to Prof. Papanikolaou by
email: spain2002@wseas.org

The accepted papers WILL BE PUBLISHED in the proceedings, WSEAS
Books/Journals.

The place (Andalucia Beach) is very beautiful, the Hotel is luxurious
and you will be able to publish your paper in two different
fora (in the proceedings, WSEAS Books/Journals)

The WSEAS will issue the proceedings and WSEAS Books/Journals related with
the multiconference using its HIGH QUALITY equipment and the promotion of
them in the university and research centers libraries as well as in WSEAS
members and collaborators worldwide.

All Authors will also receive a commemorative gift from WSEAS.

More Details: http://www.wseas.org

THE ORGANIZING COMMITTEE

## 7. Your confirmation is needed (ok 6751)

From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Wed, 29 May 2002 02:49:46 -0600
To: lyris.ss@tapr.org
Message-ID: <LYR6751-81761-2002.05.29-02.49.46--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Your email address 'lyris.ss@tapr.org' has been submitted to be
unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be
unsubscribed.

To confirm that you do want to unsubscribe, reply to this message so that
the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to
unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the
mailing list.

---

Return-Path: <cgarner@VOYAGER.CO.NZ>
Received: from ns.combiweb.co.kr ([211.42.180.4]) by lists.tapr.org with SMTP (Lyris Server version
3.0); Wed, 29 May 2002 02:49:32 -0600
Received: from mailhost.ORGANOX.COM.BR (host173-120.pool21757.interbusiness.it [217.57.120.173])
        by ns.combiweb.co.kr (8.11.0/8.11.0) with ESMTP id g4T7ArX30347;
        Wed, 29 May 2002 16:10:58 +0900
Message-ID: <00004ef14324$000053a8$00005df0@mail2.cc.HUJI.AC.IL>
To: ss-request
From: "E-Business News" <cgarner@VOYAGER.CO.NZ>
Subject:
Date: Wed, 29 May 2002 00:13:51 -1900
MIME-Version: 1.0
Content-Type: text/html;
        charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable
X-Mailer: Microsoft Outlook Express

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <cgarner@VOYAGER.CO.NZ>
Received: from ns.combiweb.co.kr ([211.42.180.4]) by lists.tapr.org with SMTP (Lyris Server version
3.0); Wed, 29 May 2002 02:49:32 -0600
Received: from mailhost.ORGANOX.COM.BR (host173-120.pool21757.interbusiness.it [217.57.120.173])
        by ns.combiweb.co.kr (8.11.0/8.11.0) with ESMTP id g4T7ArX30347;
        Wed, 29 May 2002 16:10:58 +0900
Message-ID: <00004ef14324$000053a8$00005df0@mail2.cc.HUJI.AC.IL>
To: <cgarner@VOYAGER.CO.NZ>
From: "E-Business News" <cgarner@VOYAGER.CO.NZ>
Subject: Insider Secrets of Investing
Date: Wed, 29 May 2002 00:13:51 -1900
MIME-Version: 1.0
Content-Type: text/html;
        charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable
X-Mailer: Microsoft Outlook Express

<html>
<head>
  <title>Secured Investements
  </title>
</head>

```
<body><font face=3D"Times, New Roman">
<p>
<center>
<table width=3D"625" border=3D0>
  <tbody>
  <tr>
    <td align=3D"center"><b><font color=3D#000033 size=3D6>Earn 15%-300% I=
nterest On Your Money</B></font><br>
  <font color=3D#ff0000 size=3D5><b>GUARANTEED</b> BY THE GOVERNMENT!
  </font></center></table></tbody></tr></td>
<p>
<table width=3D"500" border=3D0>
  <tbody>
  <tr>
    <td align=3D"center"><font color=3D#000033 size=3D4><b><u>Government S=
ecured Tax Cerificates Provide:</u>
    </p></tr></td></font></b>
<p>
<table width=3D"510" border=3D0>
  <tbody>
  <tr>
    <td align=3D"left"><font color=3D#000033 size=3D3>
<li>The highest guaranteed interest returns compared to any other investme=
nt.
<li>A return up to 100 times your money backed by government secured prope=
rty.
<li>Security in your investment that the stock market cannot compare to.
<li>Real estate for pennies on the dollar!
</p></table></tbody></tr></td></font></li>
<p>
<table width=3D"450" border=3D0>
  <tbody>
  <tr>
    <td align=3D"left"><font color=3D#000033 size=3D4><b>America's largest=
 single source
  of information/education for the government tax industry.  Celebrating o=
ver
  12 years of providing quality, leading edge education for the serious en=
trepreneur & investor.
</p></table></tbody></tr></td></font></b>
<P>
<CENTER>
<TABLE width=3D"530" border=3D0>
  <TBODY>
  <TR>
    <TD align=3D"middle"><FONT color=3D#000033 size=3D4><B>Receive your</f=
ont></b><FONT color=3D#ff0000 size=3D4>
  <b>FREE</b></font><FONT color=3D#000033 size=3D4><b> video of </b><FONT =
color=3D#ff0000 size=3D4>"INSIDER SECRETS OF INVESTING
  IN GOVERNMENT SECURED TAX CERTIFICATES."</FONT><br>
  <Font size=3D3 color=3D#000033>(Over 90 min. of inside strategies, a $40=
 value)</font></b></tbody><TR></TABLE>
<br>
<p align=3D"center">
<table width=3D250 border=3D0>
  <tbody>
  <tr>
    <td align=3D"center"><font color=3D#000033><b>Fill out the <i>no oblig=
ation</i> form below for more information.
    </table></tbody></tr></td></font></b></P>
<P>
<TABLE width=3D"400" border=3D0>
  <TBODY>
  <TR>
    <TD align=3D"center"><FONT color=3D#000033 size=3D2>Required Input Fie=
ld</font><font color=3D#ff0000
    size=3D2>*</FONT></P></TD></TR></TBODY></TABLE>
<P>
<TABLE cellSpacing=3D0 borderColorDark=3D#333300 cellPadding=3D3 width=3D6=
00
borderColorLight=3D#ffffcc>
  <TBODY>
  <TR>
    <TD align=3D"middle">
      <FORM action=3Dmailto:inbocks_tg1@yahoo.com?subject=3DInvestment_Inq=
uiry
      method=3Dpost encType=3Dtext/plain>
      <TABLE width=3D"100%">
        <TBODY>
```

```
        <TR>
          <TD align=3D"right" width=3D"50%"><font face=3D"Times, New Roman=
"
            color=3D#000033 size=3D2>Name</FONT>
            <FONT color=3D#ff0000 size=3D2>*</FONT></TD>
          <TD><INPUT name=3DNAME></TD></TR>
        <TR>
          <TD align=3D"right" width=3D"50%"><font face=3D"Times, New Roman=
"
            color=3D#000033 size=3D2>State</FONT>
            <FONT color=3D#ff0000 size=3D2>*</FONT></TD>
          <TD><INPUT size=3D2 name=3DState></TD></TR>
        <TR>
          <TD align=3D"right" width=3D"50%"><font face=3D"Times, New Roman=
"
            color=3D#000033 size=3D2>Day Phone</FONT>
            <FONT color=3D#ff0000 size=3D2>*</FONT></TD>
          <TD><INPUT name=3DDay Phone></TD></TR>
        <TR>
          <TD align=3D"right" width=3D"50%"><font face=3D"Times, New Roman=
"
            color=3D#000033 size=3D2>Night Phone</FONT></TD>
          <TD><INPUT name=3DNight Phone></TD></TR>
        <TR>
          <TD align=3D"right" width=3D"50%"><font face=3D"Times, New Roman=
"
            color=3D#000033 size=3D2>Best time to contact</FONT></TD>
          <TD width=3D"56%"><FONT color=3D#000000><SELECT size=3D1 name=3D=
Best time to contact>
              <OPTION selected></OPTION> <OPTION
              value=3DMorning>Morning</OPTION> <OPTION value=3DAfternoon>A=
fternoon</OPTION>
              <OPTION value=3DEvening>Evening</OPTION>
              </SELECT></FONT></TD></TR>
        <TR>
          <TD align=3D"right" width=3D"50%"><font face=3D"Times, New Roman=
"
            color=3D#000033 size=3D2>E-mail Address</FONT>
            <FONT color=3D#ff0000 size=3D2>*</FONT></TD>
          <TD><INPUT name=3DE-mail Address></TD></TR>
        <TR>
          <TD width=3D"50%">
          <DIV align=3D"right"><font face=3D"Times, New Roman"
            color=3D#000033 size=3D2>Objective</FONT></DIV></TD>
          <TD width=3D"56%"><FONT color=3D#000000><SELECT size=3D1 name=3D=
Objective>
              <OPTION selected></OPTION> <OPTION
              value=3DSecured_Investments>Secured Investments</OPTION> <OP=
TION value=3DBusiness_Opp>Business Opp</OPTION>
              <OPTION value=3DNew_Career>New Career</OPTION><OPTION value=3D=
All_of_the_Above>All of the Above</OPTION>
              </SELECT></FONT></TD></TR></tbody></table>
     <P><INPUT type=3Dsubmit value=3D"Submit Information" name=3Dsubmit>
    </FORM></P></TD></TR></TBODY></TABLE>
<br><br>
<p>
<TABLE width=3D475 border=3D0>
  <TBODY>
  <TR>
    <TD align=3Dmiddle><FONT color=3D000000 size=3D2><B>*All tax liens and=
 deeds directly support local
     fire departments, police departments, schools, roads, and hospitals.=
  Thank you for your interest and support.</b><br>
     To be removed, please
     <A href="http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/3D&amp;quot;ma
ilto:d_lete136@eudoramail.com?subject=3DRemove_Investme="
nt">click
     here</A></FONT>.</FONT></TD></TR></TBODY></TABLE></P></CENTER>
</BODY></HTML>
```

## 8. Frustrated Watching The Stock Market?

```
From: "E-Business News" <cgarnett@17a.onthe.net.nz>
Date: Wed, 29 May 2002 01:26:18 -1900
To: <cgarnett@17a.onthe.net.nz>
Message-ID: <000006bd0174$00003540$00005749@eastgate.cyberway.com.sg>
Rendered body type: text/html
```

Secured Investements

Earn 15%-300% Interest On Your Money

GUARANTEED BY THE GOVERNMENT!

Government Secured Tax Cerificates Provide:

The highest guaranteed interest returns compared to any other investment.

A return up to 100 times your money backed by government secured property.

Security in your investment that the stock market cannot compare to.

Real estate for pennies on the dollar!

America's largest single source
of information/education for the government tax industry. Celebrating over
12 years of providing quality, leading edge education for the serious entrepreneur & investor.

Receive your
FREE video of "INSIDER SECRETS OF INVESTING
IN GOVERNMENT SECURED TAX CERTIFICATES."

(Over 90 min. of inside strategies, a $40 value)

Fill out the no obligation form below for more information.

Required Input Field*

Name
*

State
*

Day Phone
*

Night Phone

Best time to contact

Morning Afternoon
Evening

E-mail Address
*

Objective

Secured Investments Business Opp
New CareerAll of the Above

*All tax liens and deeds directly support local
fire departments, police departments, schools, roads, and hospitals. Thank you for your interest and
support.

To be removed, please
click
here <http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/3D"mailto:d_lete132
@eudoramail.com?subject=Remove_Investme=>.

## 9. Your confirmation is needed (ok 6751)

From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Thu, 30 May 2002 05:03:27 -0600
To: lyris.ss@tapr.org
Message-ID: <LYR6751-82025-2002.05.30-05.03.27--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Your email address 'lyris.ss@tapr.org' has been submitted to be
unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be
unsubscribed.

To confirm that you do want to unsubscribe, reply to this message so that
the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to
unsubscribe-confirm@lists.tapr.org

```
You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the
mailing list.

---

Return-Path: <cgarner@VOYAGER.CO.NZ>
Received: from  ([152.101.55.2]) by lists.tapr.org with SMTP (Lyris Server version 3.0); Thu, 30 May
2002 05:03:24 -0600
Received: from mail2.cc.HUJI.AC.IL (pa147.grodzisk-wielkopolski.sdi.tpnet.pl [217.98.214.147])
          by mail (2.0 Build 2144 (Berkeley 8.8.4)/8.8.4) with ESMTP
          id RAA11517; Thu, 30 May 2002 17:17:28 -0700
Message-ID: <00002fbb64bf$00007174$00000452@mail2.cc.HUJI.AC.IL>
To: ss-request
From: "Business World" <cgarner@VOYAGER.CO.NZ>
Subject:
Date: Thu, 30 May 2002 02:27:25 -1900
MIME-Version: 1.0
Content-Type: text/html;
        charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable
X-Mailer: Microsoft Outlook Express

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <cgarner@VOYAGER.CO.NZ>
Received: from  ([152.101.55.2]) by lists.tapr.org with SMTP (Lyris Server version 3.0); Thu, 30 May
2002 05:03:24 -0600
Received: from mail2.cc.HUJI.AC.IL (pa147.grodzisk-wielkopolski.sdi.tpnet.pl [217.98.214.147])
          by mail (2.0 Build 2144 (Berkeley 8.8.4)/8.8.4) with ESMTP
          id RAA11517; Thu, 30 May 2002 17:17:28 -0700
Message-ID: <00002fbb64bf$00007174$00000452@mail2.cc.HUJI.AC.IL>
To: <cgarner@VOYAGER.CO.NZ>
From: "Business World" <cgarner@VOYAGER.CO.NZ>
Subject: Why pay more for something if you don't have to?
Date: Thu, 30 May 2002 02:27:25 -1900
MIME-Version: 1.0
Content-Type: text/html;
        charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable
X-Mailer: Microsoft Outlook Express

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<META http-equiv=3DContent-Type content=3D"text/html; charset=3Dwindows-12=
52">
<META content=3D"MSHTML 5.50.4134.600" name=3DGENERATOR></HEAD>
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face=3DMicrosoft, Sans Sarif>
<P>
<CENTER>
<TABLE width=3D560 border=3D0>
  <TBODY>
  <TR>
    <TD align=3Dmiddle><B><FONT color=3D#42426F size=3D6>UNLIMITED WEB CON=
FERENCING</font></b>
      <HR><FONT color=3D#2F2F4F size=3D4>Subscribe to the Web Conference C=
enter for only $40.00 per month!
</FONT>
<br>
<FONT color=3D#42426F size=3D3>(Connects up to 15 participants at a time p=
lus audio charges)</font></TD></TR></TBODY></TABLE><P>
<TABLE width=3D475 border=3D0>
  <TBODY>
  <TR>
    <TD align=3D"left"><FONT color=3D#2F2F4F size=3D3><B>
      <LI>Manage your meetings virtually on line
      <LI>Application sharing
      <LI>Multi-platform compatible </B>(no software needed)
      <LI><B>Call anytime, from anywhere, to anywhere
      <LI>Unlimited usage for up to 15 participants</b> (larger groups ava=
ilabale)
```

```
      <LI><b>Lowest rate $.18 cents per minunte for audio </b>(toll charge=
s included)
      <LI><b>Quality, easy to use service
      <LI>Numerous interactive features</B></FONT></LI></TD></TR></TBODY><=
/TABLE>
<P>
<TABLE width=3D500 border=3D0>
  <TBODY>
  <TR>
    <TD align=3D"left"><FONT color=3D#42426F size=3D4><B>FREE DEMO</B></fo=
nt>
<BR><BR>
<FONT color=3D#42426F size=3D5><B>Eliminate or Reduce Travel Expense</b></=
font>
<BR><FONT color=3D#2F2F4F size=3D4><B>
Try this on for savings...
and turn those unnecessary trips into problem solving and fact finding con=
ferences,
saving time and wear and tear on your overworked business staff.
</B></FONT></TD></TR></TBODY></TABLE>
<P>
<TABLE width=3D350 border=3D0>
  <TBODY>
  <TR>
    <TD align=3Dmiddle><FONT color=3D#42426F size=3D4>To find out more abo=
ut this revolutionary concept,
fill out the form below.</FONT></TD></TR></TBODY></TABLE>
<P><FONT color=3D#2F2F4F size=3D2><b>Required Input Field<FONT color=3D#5C=
4033
size=3D2>*</FONT></b>
<P>
<TABLE cellSpacing=3D0 borderColorDark=3D#333300 cellPadding=3D3 width=3D6=
00
borderColorLight=3D#ffffcc>
  <TBODY>
  <TR>
    <TD align=3Dmiddle>
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      method=3Dpost encType=3Dtext/plain>
      <TABLE width=3D"100%">
        <TBODY>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#2F2F4F
          size=3D2><b>Name</b></FONT><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#5C4033
            size=3D2>*</FONT></TD>
          <TD><INPUT name=3DNAME></TD></TR>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#2F2F4F size=3D2=
><b>Web
            Address</b></FONT></TD>
          <TD><INPUT value=3Dhttp:// name=3DURL></TD></TR>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#2F2F4F size=3D2=
><b>Company
            Name</b></FONT><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#5C4033
            size=3D2>*</FONT></TD>
          <TD><INPUT name=3DCOMPANY_NAME></TD></TR>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#2F2F4F size=3D2=
><b>
            State</b></FONT><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#5C4033
            size=3D2>*</FONT></TD>
          <TD><INPUT size=3D2 name=3DSTATE></TD></TR>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#2F2F4F size=3D2=
><b>Business
            Phone</b></FONT><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#5C4033
            size=3D2>*</FONT></TD>
          <TD><INPUT name=3DBUS_PHONE></TD></TR>
        <TR>
```

```
          <TD align=3Dright width=3D"50%"><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#2F2F4F size=3D2=
><b>Home
            Phone</b></FONT></TD>
          <TD><INPUT name=3DHOME_PHONE></TD></TR>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#2F2F4F size=3D2=
><b>Email
            Address</b></FONT><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#5C4033
            size=3D2>*</FONT></TD>
          <TD><INPUT name=3DEMAIL></TD></TR>
        </TBODY></TABLE>
      <P><INPUT type=3Dsubmit value=3D"Submit Information" name=3Dsubmit>
    </FORM></P></TD></TR></TBODY></TABLE>
<BR><BR>
<TABLE width=3D350>
  <TBODY>
  <TR>
    <TD align=3Dmiddle><FONT color=3D#000000 size=3D1><b>All information g=
iven herein is strictly confidential and will not be re-distributed
      for any reason other than for the specific use intended.</font></b><=
br>
      <FONT face=3D"Arial, Helvetica, sans-serif" color=3D#000000
      size=3D1>To be removed from our distribution lists, please
      <A href="http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/3D&amp;quot;ma
ilto:d_lete145@eudoramail.com?subject=3DRemove_WebC&amp;quot;">Cl=
ick
      here.<FONT color=3D#666600></A></FONT>.</FONT></TD></TR></TBODY></TA=
BLE></P></CENTER></BODY></HTML>
```

## 10. Why pay more for something if you don't have to?

```
From: "Premium Technologies" <cgarnett@17a.onthe.net.nz>
Date: Thu, 30 May 2002 03:42:10 -1900
To: <cgarnett@17a.onthe.net.nz>
Message-ID: <00007036437d$00006ed8$00003caa@eastgate.cyberway.com.sg>
Rendered body type: text/html
```

New Web Technology

UNLIMITED WEB CONFERENCING

Subscribe to the Web Conference Center for only $40.00 per month!

(Connects up to 15 participants at a time plus audio charges)

Manage your meetings virtually on line

Application sharing

Multi-platform compatible (no software needed)

Call anytime, from anywhere, to anywhere

Unlimited usage for up to 15 participants (larger groups availabale)

Lowest rate $.18 cents per minunte for audio (toll charges included)

Quality, easy to use service

Numerous interactive features

FREE DEMO

Eliminate or Reduce Travel Expense

Try this on for savings...
and turn those unnecessary trips into problem solving and fact finding conferences,
saving time and wear and tear on your overworked business staff.

To find out more about this revolutionary concept,
fill out the form below.

Required Input Field*

Name*

Web

Address

Company
Name*

State*

Business
Phone*

Home
Phone

Email
Address*

All information given herein is strictly confidential and will not be re-distributed
for any reason other than for the specific use intended.

To be removed from our distribution lists, please
Click
here. <http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/3D"mailto:d_lete14
1@eudoramail.com?subject=Remove_WebC">.

# June 2002

Original source file: ss.0206
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/ss.0206

## 1. Your confirmation is needed (ok 6751)

From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Sat, 01 Jun 2002 15:46:04 -0600
To: lyris.ss@tapr.org
Message-ID: <LYR6751-82567-2002.06.01-15.46.04--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

```
Your email address 'lyris.ss@tapr.org' has been submitted to be
unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be
unsubscribed.

To confirm that you do want to unsubscribe, reply to this message so that
the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to
unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the
mailing list.

---

Return-Path: <gtolivares@samerica.com>
Received: from mail.hellasnet.gr ([212.54.192.3]) by lists.tapr.org with SMTP (Lyris Server version
3.0); Sat, 01 Jun 2002 15:45:32 -0600
Received: from samerica.com (ppp1-115.pop.hellasnet.gr [212.251.123.115])
        by mail.hellasnet.gr (8.12.1/8.12.1) with SMTP id g51K9Rcr020194
        for <leave-ss-6751t@lists.tapr.org>; Sat, 1 Jun 2002 23:09:28 +0300 (EET DST)
Message-Id: <200206012009.g51K9Rcr020194@mail.hellasnet.gr>
From: "WSEAS Conferences in BRAZIL" <gtolivares@samerica.com>
To: ss-request
Subject:
Sender: "WSEAS Conferences in BRAZIL" <gtolivares@samerica.com>
Mime-Version: 1.0
Content-Type: text/html; charset="ISO-8859-1"
Date: Sat, 1 Jun 2002 23:09:28 +0300
X-Priority: 1 (Highest)
Content-Transfer-Encoding: 8bit

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <gtolivares@samerica.com>
Received: from mail.hellasnet.gr ([212.54.192.3]) by lists.tapr.org with SMTP (Lyris Server version
3.0); Sat, 01 Jun 2002 15:45:32 -0600
Received: from samerica.com (ppp1-115.pop.hellasnet.gr [212.251.123.115])
        by mail.hellasnet.gr (8.12.1/8.12.1) with SMTP id g51K9Rcr020194
        for <leave-ss-6751t@lists.tapr.org>; Sat, 1 Jun 2002 23:09:28 +0300 (EET DST)
Message-Id: <200206012009.g51K9Rcr020194@mail.hellasnet.gr>
From: "WSEAS Conferences in BRAZIL" <gtolivares@samerica.com>
To: <leave-ss-6751t@lists.tapr.org>
Subject: ***** 2002 WSEAS Int.Conf. on COMPUTER NETWORKS (ICCON'02) ***** 2002 WSEAS Int.Conf. on
INFORMATION SECURITY (ICIS'02) ***** 2002 WSEAS Int.Conf. on HARDWARE/SOFTWARE CODESIGN ***** 2002 WSEAS
 Int.Conf. on E-COMMERCE (E-COMMERCE'02) *****
Sender: "WSEAS Conferences in BRAZIL" <gtolivares@samerica.com>
Mime-Version: 1.0
Content-Type: text/html; charset="ISO-8859-1"
Date: Sat, 1 Jun 2002 23:09:28 +0300
X-Priority: 1 (Highest)
Content-Transfer-Encoding: 8bit

<HTML>
<BODY bgColor=#ffffff>
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      <DIV>
```

```
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        <TR>
        </FONT>
          <TD vAlign=top width="77%" height=637>
            <TABLE height=67 cellSpacing=0 cellPadding=0 width="98%"
border=0>
              <TBODY>
              <TR>
                <TD width="54%" height=49>
                  <DIV style="width: 744; height: 778" align=center>
                  <P><B><font face="Arial, Helvetica, sans-serif"
color="#000098" size="5">
                  <img src="http://www.wseas.org/logotype.gif" width="70"
align="left"><u>WSEAS Conferences in Brazil, October 2002</u> <br>
  </font></B></P>
                  <P><B>
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2002 WSEAS Int.Conf. on COMPUTER NETWORKS (ICCON'02)
<BR>
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</small>
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2002 WSEAS Int.Conf. on HARDWARE/SOFTWARE CODESIGN
<BR>
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</small>
<BR><BR>
2002 WSEAS Int.Conf. on E-COMMERCE (E-COMMERCE'02)
<BR>
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color="#000098">
http://www.wseas.org/conferences/2002/brazil/ecommerce</font></a>
</small>




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Hotel</FONT></FONT></font><font face="Arial, Helvetica, sans-serif"
size="3" color="#000098">, <BR>Rio de
                  Janeiro, Brazil<BR></font></B>
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                  Brazil</font><FONT size=1>
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                  <P><FONT face="Times New Roman, Times, serif"
size=2><B><FONT
                  color=#800080>Program Chair:</FONT></B><BR>Luiza de M.
                  Mourelle, Brazil</FONT></P>
                  <P><FONT face="Times New Roman, Times, serif"
size=2><B><FONT
                  color=#800080>Program Co-Chair:</FONT></B><BR>Nadia
Nedjah,
                  Brazil</FONT></P>

                  <P style="MARGIN-TOP: 5px"><B><FONT
                  face="Times New Roman, Times, serif" color=#800080
                  size=2>Program Committee:<BR></FONT></B><FONT
                  face="Times New Roman, Times, serif" size=2>J.A.
                  Antonacopoulos,  UK<BR>S. Assar, France<BR>M. L.
Anido,
                  Brazil<BR>L. Badri, Canada<BR>M. Badri, Canada<BR>N.
                  Bardis,  Greece<BR>E. Bardis,  Greece<BR>E. N.
                  Barros, Brazil<BR>M. D. Edwards, UK<BR>F. M. Galv&#947;o,
                  Brazil<BR>D. Kalles, Greece<BR>M. E. Lima,
Brazil<BR>L..M.
                  Mourelle, Brazil<BR>Z. Mammeri, France<BR>N.
Mastorakis, 
                  Greece<BR>N. Nedjah, Brazil<BR>M.M. Vellasco,
Brazil<BR>A.
                  C.de Oliveira, Brazil<BR>K. Papanikolaou, Greece<BR>B.
Prasad,
                  USA<BR>C. D. Walter, UK</FONT></P>

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                  <P style="MARGIN-TOP: 0px"><B><FONT
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                  size=2><BR>Workshops, Sessions and
Tutorials:</FONT></B></P>
                  <P style="MARGIN-TOP: 0px"><FONT
                  face="Times New Roman, Times, serif" size=2>Workshop,
session
                  and tutorial proposals are invited. For further details,
                  consult the program chair or see the conferences web
sites
                  on:  <A

href="http://www.wseas.org/conferences"><BR><BR>http://www.wseas.org</A>
</FONT></P>
                  <P style="MARGIN-TOP: 0px"> </P>
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            face="Arial, Helvetica, sans-serif" size=2>Sponsored
by:<BR><B><FONT
            color=#800080>World Scientific and Engineering Academy and
Society -
            WSEAS<BR></FONT></B></FONT><SPAN lang=EN-US
            style="mso-ansi-language: EN-US"><FONT size=2>Original papers
are
            solicited for submission to the WSEAS International
```

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Conferences: </P>
<ul>
<LI>2002 WSEAS Int.Conf. on Information Security (ICIS'02) </li>
<LI>2002 WSEAS Int.Conf. on Hardware/Software Codesign (ICCD'02)</li>
<li>2002 WSEAS Int.Conf. on E-Commerce (E-COMMERCE'02) </li>
<li>2002 WSEAS Int.Conf. on Computer Networks (ICCON'02)</li>
</ul>


 This multiconference aims to bring
            together individuals involved in multiple disciplines related
to
            computer networks, security, hardware/software codesign and
e-commerce to foster exchange of ideas.</FONT></SPAN><FONT
            face="Times New Roman, Times, serif" size=2>Topics of interest
            can be found at:
<ul><li><a href="http://www.wseas.org/conferences/2002/brazil/icis"
TARGET="_blank">
http://www.wseas.org/conferences/2002/brazil/icis
</a></li></ul><ul><li>

<a href="http://www.wseas.org/conferences/2002/brazil/iccd" TARGET="_blank">
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http://www.wseas.org/conferences/2002/brazil/iccon
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</font>




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            <P style="MARGIN-TOP: 19px" align=justify><B><FONT
            color=#800080><FONT face="Times New Roman, Times, serif"
            size=2>Authors are invited to electronically submit their
paper,
            written in English, of up to 6 single spaced two-columns pages
            (Authors kit available in the conference web page),
            </FONT></FONT></B><FONT face="Times New Roman, Times, serif"
            size=2>presenting the results of original research or
innovative
            practical applications relevant to the conference. Practical
            experiences with state-of-the-art computer network
methodologies are
            also acceptable when they reflect lessons of unique value to
the
            conference attendees.  <FONT color=#800080><B>Paper
submission
            will be done electronically, via the conference web site
            </B></FONT></FONT><FONT color=#800080><B><FONT
            face="Times New Roman, Times, serif"

size=2>http://www.wseas.org/conferences/2002/brazil/iccon</FONT></B></FONT>
<FONT
            face="Times New Roman, Times, serif" size=2><FONT
            color=#800080>.</FONT> Intending authors should go to this
site and
            follow the prompts to see how to submit their paper. In case of
            difficulty please contact the Program Chair, Dr. Luiza de
Macedo
            Mourelle (ldmm@eng.uerj.br).<FONT color=#006666>
</FONT><B><FONT
            color=#800080>Paper submission is required by June 30,
            2002.</FONT><FONT color=#800000> </FONT></B>ALL papers will be
            formally peer reviewed. Notification of the results of the
review
            process will be made by  July 30, 2002, and final copies
of
            papers for inclusion in the conference proceedings will be due
by
            August 15, 2002. The conference proceedings, published in a
```

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bound
            volume of <I>Reference Books and Textbooks Series</I> by WSEAS
            Press, will be available at the conference as well in a CD-ROM
            volume. Referees will be asked to nominate the best papers
that will
            be automatically considered for publication in the
International
            WSEAS Transactions on Systems and the International WSEAS
            Transactions on Communications.</FONT></P>
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                  Macedo Mourelle, <FONT color=#800080><B>Chair of
                  ICCON-2002,</B></FONT> <A

href="mailto:ldmm@eng.uerj.br">ldmm@eng.uerj.br</A><BR>Dr. Nadia
                  Nedjah, <FONT color=#800080><B>Co-Chair of
ICCON-2002</B>,
                  </FONT><A

href="mailto:nadia@eng.uerj.br">nadia@eng.uerj.br<BR><BR></A>Department
                  of System Engineering &amp; Computation, Faculty of
                  Engineering,<BR>State University of Rio de Janeiro -
                  UERJ</FONT>  <FONT face="Times New Roman, Times,
serif"
                  size=2><BR>Rua S&#947;o Francisco Xavier, 524, 5o.
andar, Bloco D,
                  Sala 502</FONT><FONT size=2><FONT
                  face="Times New Roman, Times,
serif">2,</FONT> Maracan&#947;,
                  CEP 20559-900, <BR>Rio de Janeiro, RJ,
Brazil</FONT><FONT
                  face="Times New Roman, Times, serif" size=2> <BR><BR>Tel:
                  </FONT><FONT face="Times New Roman, Times, serif"
size=2>(+55)
                  21 2587 7442       Fax:
(+55) 21
                  2587
      7374<br>
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            simultaneously published in two different international fora
: <br>
            <b>Proceedings + International Books<br>
            </b> or <br>
            </font><b><font size="4">Proceedings + WSEAS Transactions
(Journals)</font></b></td>
          </tr>
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        </font>
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```

## 2. Your confirmation is needed (ok 6751)

```
From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Mon, 03 Jun 2002 12:58:32 -0600
To: lyris.ss@tapr.org
Message-ID: <LYR6751-82954-2002.06.03-12.58.32--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain
```

Your email address 'lyris.ss@tapr.org' has been submitted to be
unsubscribed from the 'ss' mailing list.

```
This unsubscribe command requires your confirmation that you want to be
unsubscribed.

To confirm that you do want to unsubscribe, reply to this message so that
the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to
unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the
mailing list.

---

Return-Path: <targetemailextractor@btamail.net.cn>
Received: from c-excellence.com ([61.135.129.160]) by lists.tapr.org with SMTP (Lyris Server version
3.0); Mon, 03 Jun 2002 12:58:31 -0600
Received: from html [61.174.192.114] by c-excellence.com
  (SMTPD32-5.00) id A7BC2CC013E; Mon, 03 Jun 2002 17:20:15 +800
From: targetemailextractor@btamail.net.cn
To: ss-request
Subject:
Date: Mon, 3 Jun 2002 17:13:36
Mime-Version: 1.0
Content-Type: text/html; charset="DEFAULT_CHARSET"
X-Priority: 3
X-MSMail-Priority: Normal
X-Mailer: Microsoft Outlook Express 5.00.2919.6700
X-MimeOLE: Produced By Microsoft MimeOLE V5.00.2919.6700
Message-Id: <200206031720.SM01292@html>

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <targetemailextractor@btamail.net.cn>
Received: from c-excellence.com ([61.135.129.160]) by lists.tapr.org with SMTP (Lyris Server version
3.0); Mon, 03 Jun 2002 12:58:31 -0600
Received: from html [61.174.192.114] by c-excellence.com
  (SMTPD32-5.00) id A7BC2CC013E; Mon, 03 Jun 2002 17:20:15 +800
From: targetemailextractor@btamail.net.cn
To: leave-tribunetext-@moreover.lyris.net
Subject: Direct Email Blaster, Email extractor, email downloader, email verify ..........
Date: Mon, 3 Jun 2002 17:13:36
Mime-Version: 1.0
Content-Type: text/html; charset="DEFAULT_CHARSET"
X-Priority: 3
X-MSMail-Priority: Normal
X-Mailer: Microsoft Outlook Express 5.00.2919.6700
X-MimeOLE: Produced By Microsoft MimeOLE V5.00.2919.6700
Message-Id: <200206031720.SM01292@html>


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  □□
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<div>
  <strong><font color="#ff0080" size="4" face="Arial">Direct Email Blaster</font></strong>
</div>
<font size="2">
<p><font face="Arial"><font color="#006600"><i>The program will send mail at the
rate of over 1, 000 e-mails per minute. </i></font><br>
Legal and Fast sending bulk emails <br>
<font color="#006600"><i>Built in SMTP server </i></font><br>
Have Return Path <br>
Can Check Mail Address <br>
<font color="#006600"><i>Make Error Send Address List( Remove or Send Again) </i></font><br>
Support multi-threads. <br>
```

```
Support multi-smtp servers. <br>
Manages your opt-in E-Mail Lists <br>
Offers an easy-to-use interface! <br>
Easy to confige and use </font></p>
<p><font face="Arial"><a href="http://www.wldinfo.com/bj_download/edeb_set.zip"><strong>Download
Now</strong></a></font></p>
<p><strong><font color="#ff0080" size="4" face="Arial">Maillist Verify</font></strong></p>
<p><font face="Arial">Maillist Verify is intended for e-mail addresses and mail
lists verifying. The main task is to determine which of addresses in the mail
list are dead. The program is oriented, basically, on programmers which have
their own mail lists to inform their users about new versions of their programs.</font></p>
<p><font face="Arial">The program works on the same algorithm as ISP mail
systems do. Mail servers addresses for specified address are extracted from DNS.
The program tries to connect with found SMTP-servers and simulates the sending
of message. It does not come to the message <nobr>sending &#8255;/NOBR&gt; EMV
disconnect as soon as mail server informs does this address exist or not. EMV
can find about 90% of dead addresses &#8255;/NOBR&gt; some mail systems receive
all messages and only then see their addresses and if the address is dead send
the message back with remark about it.</nobr></font></p>
<nobr>
<p><a href="http://www.wldinfo.com/bj_download/bemv_set.zip"><strong><font size="3"
face="Arial">Download
Now</font></strong></a></p>
<p><strong><font color="#ff0080" size="4" face="Arial">Express Email Blaster </font></strong></p>
<p><font face="Arial">Express Email Blaster  is a very fast, powerful yet
simple to use email sender. Utilizing multiple threads/connections and multiple
SMTP servers your emails will be sent out fast and easily. There are User
Information, Attach Files, Address and Mail Logs four tabbed area for the
E-mails details for sending. About 25 SMTP servers come with the demo version,
and users may Add and Delete SMTP servers. About <font color="#008000"><b>60,000</b></font>
E-mails will be sent out per hour.&quot;</font></p>
<p><strong><a href="http://www.wldinfo.com/bj_download/beeb_set.zip"><font size="3"
face="Arial">Download
Now</font></a></strong></p>
<p><strong><font color="#ff0080" size="4" face="Arial">Express Email Address
Extractor</font></strong></p>
<font size="4">
<p><font face="Arial"><strong><font size="3" color="#008000">This program is the
most efficient, easy to use email address collector available on the internet! </font><font
color="#000000" size="3">Beijing
Express Email Address Extractor (ExpressEAE) is designed to extract e-mail
addresses from web-pages on the Internet (using HTTP protocols) .ExpressEAE
supports operation through many proxy-server and works very fast, as it is able
of loading several pages simultaneously, and requires very few resources.</font></strong></font></p>
<p><font face="Arial"><strong><font color="#000000" face="Arial"><font size="3">With
it, you will be able to</font><font size="2"> </font><font size="3">use targeted
searches to crawl the world wide web, extracting thousands of clean, fresh email
addresses. Ably Email address Extractor is unlike other address collecting
programs, which limit you to one or two search engines and are unable to do auto
searches HUGE address. Most of them collect a high percentage of incomplete,
unusable addresses which will cause you serious problems when using them in a
mailing. </font></font></strong></font>
<ul>
  <li><font face="Arial"><strong><font color="#008000" size="3" face="Arial">Easier
    to learn and use than any other email address collector program available.</font></strong></font>
  <li><font face="Arial"><strong><font color="#008000" size="3" face="Arial">Accesses
    eight search engines </font></strong></font>
  <li><font face="Arial"><strong><font color="#008000" size="3" face="Arial">Add
    your own URLs to the list to be searched</font></strong></font>
  <li><font face="Arial"><strong><font size="3" face="Arial"><font color="#008000">Supports
    operation through </font><font color="#ff00ff">a lot of</font><font color="#008000">
    proxy-server and works very fast (HTTP Proxy)</font></font></strong></font>
  <li><font face="Arial"><strong><font color="#008000" size="3" face="Arial">Able
    of loading several pages simultaneously</font></strong></font>
  <li><font face="Arial"><strong><font color="#008000" size="3" face="Arial">Requires
    very few resources</font></strong></font>
  <li><font face="Arial"><strong><font color="#008000" size="3" face="Arial">Timeout
    feature allows user to limit the amount of time crawling in dead sites and
    traps.</font></strong></font>
  <li><font face="Arial"><strong><font size="3" face="Arial"><font color="#008000">Easy
    to make </font><font color="#ff00ff">Huge</font><font color="#008000">
    address list</font></font></strong></font>
  <li><font face="Arial"><strong><font color="#008000" size="3" face="Arial">Pause/continue
    extraction at any time.</font></strong></font>
  <li><font face="Arial"><strong><font color="#008000" size="3" face="Arial">Auto
    connection to the Internet</font></strong></font></li>
</ul>
<div>
  <strong><a href="http://www.wldinfo.com/bj_download/eeae_set.zip"><font size="3" color="#008000"
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face="Arial">Download
  Now</font></a></strong>
</div>
<div>
  <strong><font color="#ff0080" face="Arial">Express Email Address Downloader</font></strong>
</div>
<ul>
  <li><font face="Arial"><strong><font color="#006600" size="2">ExpressEAD 
    </font><font color="#000000" size="2">is a 32 bit Windows Program for e-mail
    marketing. It is intended for easy and convenient search large e-mail
    address lists from mail servers. The program can be operated on Windows
    95/98/ME/2000 and NT.</font></strong></font>
  <li><font face="Arial"><strong><font color="#006600" size="2">ExpressEAD 
    </font><font color="#000000" size="2">support multi-threads (up to 1024
    connections).</font></strong></font>
  <li><font face="Arial"><strong><font color="#006600" size="2">ExpressEAD 
    </font><font color="#000000" size="2">has the ability  to reconnect to
    the mail server if the server has disconnected and continue the searching at
    the point where it has been interrupted.</font></strong></font>
  <li><font face="Arial"><strong><font color="#006600" size="2">ExpressEAD 
    </font><font color="#000000" size="2">has an ergonomic interface that is
    easy to set up and simple to use.</font></strong></font></li>
</ul>
<div>
  <font face="Arial"> </font>
</div>
<p><font face="Arial"><strong><font color="#008000" size="4"
face="Arial">Features:</font></strong></font>
<ul type="disc">
  <li><font face="Arial"><strong><font size="2" face="Arial">support
    multi-threads.</font></strong></font>
  <li><font face="Arial"><strong><font size="2" face="Arial">auto get smtp
    server address,support multi-smtp servers.</font></strong></font>
  <li><font face="Arial"><strong><font size="2" face="Arial">auto save 
    E-Mail Lists</font></strong></font>
  <li><font face="Arial"><strong><font size="2" face="Arial">offers an
    easy-to-use interface!</font></strong></font></li>
</ul>
<div>
  <strong><a href="http://www.wldinfo.com/bj_download/eead_set.zip"><font size="3" color="#008000"
face="Arial">Download
  Now</font></a></strong>
</div>
<div>
  <font face="Arial"> </font>
</div>
<div>
  <strong><font color="#ff0080" face="Arial">Express Maillist Manager</font></strong>
</div>
<div>
  <font face="Arial"> </font>
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<div>
  <font size="2">
  <p><font face="Arial"><font color="black" size="3">This program was designed
  to be a complement to the </font><font color="#800080" size="3">Direct Email
  Blaster  </font><font color="black" size="3">and </font><font color="#800080" size="3">Email
  Blaster </font><font color="black" size="3">suite of bulk email software
  programs. Its purpose is to organize your email lists in order to be more
  effective with your email marketing campaign. Some of its features include:</font></font></p>
  <p><b><font color="#008000" face="Arial"><font size="3">&#8255;Combine several
  lists into one file.</font><br>
  <font size="3">&#8255;Split up larger lists to make them more manageable.</font><br>
  <font size="3">&#8255;Remove addresses from file.</font><br>
  <font size="3">&#8255;Manual editing, adding, and deleting of addresses.</font><br>
  <font size="3">&#8255;Ability to auto clean lists, that is, remove any
  duplicate or unwanted addresses.</font><br>
  <font size="3">&#8255;Maintain all your address lists within the program so
  you no  longer need to keep all your lists saved as separate text files.</font></font></b></p>
  <p><strong><a href="http://www.wldinfo.com/bj_download/bemm_set.zip"><font size="3" color="#008000"
face="Arial">Download
  Now</font></a></strong></p>
  <p><font face="Arial"> </font></p>
  <p>□□</p>
  <div>
    <font face="Arial">if you want to remove your email, please send email to <a
href="mailto:targetemailremoval@btamail.net.cn">targetemailremoval@btamail.net.cn</a></font>
  </div>
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## 3. Your confirmation is needed (ok 6751)

```
From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Sat, 08 Jun 2002 11:25:59 -0600
To: lyris.ss@tapr.org
Message-ID: <LYR6751-83920-2002.06.08-11.25.59--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain
```

```
Your email address 'lyris.ss@tapr.org' has been submitted to be
unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be
unsubscribed.

To confirm that you do want to unsubscribe, reply to this message so that
the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to
unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the
mailing list.

---

Return-Path: <ioannou@snd.edu.gr>
Received: from ux.snd.edu.gr ([194.219.139.5]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Sat, 08 Jun 2002 11:25:55 -0600
Received: (from mailer@localhost)
        by ux.snd.edu.gr (8.9.3/8.9.3) id SAA28052
        for leave-ss-6751t@lists.tapr.org; Sat, 8 Jun 2002 18:38:56 +0300
Received: from wseas.org (whoknows.sbie.edu.gr [194.219.15.3] (may be forged)) by nod8.pca.com.gr
(8.8.8/SCO5) with ESMTP id JAA02217 for <mailer@ux.snd.edu.gr>; Thu, 6 Jun 2002 09:16:16 +0300 (EETDST)
Date: Sat, 8 Jun 2002 18:38:56 +0300
Message-Id: <200206081538.SAA28052@ux.snd.edu.gr>
X-Authentication-Warning: ux.snd.edu.gr: mailer set sender to ioannou@snd.edu.gr using -f
To: ss-request
From: Ioannou <ioannou@snd.edu.gr>
X-Mailer: Mozilla 4.79 [en] (Win98; U)
X-Accept-Language: en,el,fr,de
MIME-Version: 1.0
Subject:
Content-Type: multipart/mixed;
 boundary="------------2CD7125CA1AB033638351E97"
Status: R

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <ioannou@snd.edu.gr>
Received: from ux.snd.edu.gr ([194.219.139.5]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Sat, 08 Jun 2002 11:25:55 -0600
Received: (from mailer@localhost)
        by ux.snd.edu.gr (8.9.3/8.9.3) id SAA28052
```

```
        for leave-ss-6751t@lists.tapr.org; Sat, 8 Jun 2002 18:38:56 +0300
Date: Sat, 8 Jun 2002 18:38:56 +0300
Message-Id: <200206081538.SAA28052@ux.snd.edu.gr>
X-Authentication-Warning: ux.snd.edu.gr: mailer set sender to ioannou@snd.edu.gr using -f
To: <leave-ss-6751t@lists.tapr.org>
Received: from wseas.org (whoknows.sbie.edu.gr [194.219.15.3] (may be forged)) by nod8.pca.com.gr
(8.8.8/SCO5) with ESMTP id JAA02217 for <mailer@ux.snd.edu.gr>; Thu, 6 Jun 2002 09:16:16 +0300 (EETDST)
From: Ioannou <ioannou@snd.edu.gr>
X-Mailer: Mozilla 4.79 [en] (Win98; U)
X-Accept-Language: en,el,fr,de
MIME-Version: 1.0
Subject: ATHENS 2002
Content-Type: multipart/mixed;
 boundary="------------2CD7125CA1AB033638351E97"
Status: R

This is a multi-part message in MIME format.
--------------2CD7125CA1AB033638351E97
Content-Type: text/plain; charset=iso-8859-7
Content-Transfer-Encoding: 7bit

The following conferences (organized by WSEAS and the Department
of Computer Science of the Hellenic Naval Academy)

*   4th WSEAS Int. Conf. on MATHEMATICAL METHODS AND COMPUTATIONAL
TECHNIQUES IN ELECTRICAL ENGINEERING (MMACTEE 2002)
http://www.wseas.org/conferences/2002/athens/mmactee

*   1st WSEAS Int. Conf. on NON-LINEAR ANALYSIS, NON-LINEAR SYSTEMS AND
CHAOS (NOLASC 2002)
http://www.wseas.org/conferences/2002/athens/nolasc

*   2nd WSEAS Int. Conf. on WAVELET ANALYSIS AND MULTIRATE SYSTEMS
(WAMUS 2002)
http://www.wseas.org/conferences/2002/athens/wamus

will be held in the paradise place of Vouliagmeni ( which is a
marvellous resort 15 Kms from Athens), Greece, in December 29-31 2002

Chairman: Prof. Nikos E. Mastorakis, http://mastor.snd.edu.gr

SEND The Abstract of your paper now to:  mastor@ieee.org

ALL the accepted papers WILL BE PUBLISHED in the proceedings, WSEAS
Books/Journals.

The WSEAS will issue the proceedings and WSEAS Books/Journals
related with the multiconference using its HIGH QUALITY equipment and
the
promotion of them in the university and research centers libraries as
well as in
WSEAS members and collaborators worldwide.

Authors will also receive (except the proceedings, books, issues of
WSEAS Transactions, social part) important gifts from WSEAS.

The place, Vouliagmeni, is very beautiful, the Hotel (Astir Palace) is
luxurious
and you will be able to publish your paper in two different
fora (in the proceedings, WSEAS Books/Journals)

You will also have the opportunity to enjoy Athens (the birthplace of
Classical Philosophy, Democracy and Olympism) and all the classical
monuments in the Ancient City of Athens (Acropolis, Parthenon,
Erechtheion, Thesion), museums, and the famous Plaka with old buildings
and picturesque greek tavernas.

More Details: http://www.wseas.org

THE ORGANIZING COMMITTEE


--------------2CD7125CA1AB033638351E97--
```

## 4. Your confirmation is needed (ok 6751)

From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Sun, 09 Jun 2002 08:55:39 -0600

To: lyris.ss@tapr.org
Message-ID: <LYR6751-84049-2002.06.09-08.55.39--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Your email address 'lyris.ss@tapr.org' has been submitted to be
unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be
unsubscribed.

To confirm that you do want to unsubscribe, reply to this message so that
the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to
unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the
mailing list.

---

Return-Path: <svetier@europe.com>
Received: from mail.hellasnet.gr ([212.54.192.3]) by lists.tapr.org with SMTP (Lyris Server version
3.0); Sun, 09 Jun 2002 08:55:18 -0600
Received: from europe.com (ppp1-240.pop.hellasnet.gr [212.251.123.240])
        by mail.hellasnet.gr (8.12.1/8.12.1) with SMTP id g59DIw9n013390
        for <leave-ss-6751t@lists.tapr.org>; Sun, 9 Jun 2002 16:18:58 +0300 (EET DST)
Message-Id: <200206091318.g59DIw9n013390@mail.hellasnet.gr>
From: "WSEAS NEWSLETTER in ELECTRICAL ENGINEERING" <svetier@europe.com>
To: ss-request
Subject:
Sender: "WSEAS NEWSLETTER in ELECTRICAL ENGINEERING" <svetier@europe.com>
Mime-Version: 1.0
Content-Type: text/plain; charset="ISO-8859-1"
Date: Sun, 9 Jun 2002 16:19:01 +0300
Content-Transfer-Encoding: quoted-printable
X-MIME-Autoconverted: from 8bit to quoted-printable by mail.hellasnet.gr id g59DIw9n013390

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <svetier@europe.com>
Received: from mail.hellasnet.gr ([212.54.192.3]) by lists.tapr.org with SMTP (Lyris Server version
3.0); Sun, 09 Jun 2002 08:55:18 -0600
Received: from europe.com (ppp1-240.pop.hellasnet.gr [212.251.123.240])
        by mail.hellasnet.gr (8.12.1/8.12.1) with SMTP id g59DIw9n013390
        for <leave-ss-6751t@lists.tapr.org>; Sun, 9 Jun 2002 16:18:58 +0300 (EET DST)
Message-Id: <200206091318.g59DIw9n013390@mail.hellasnet.gr>
From: "WSEAS NEWSLETTER in ELECTRICAL ENGINEERING" <svetier@europe.com>
To: <leave-ss-6751t@lists.tapr.org>
Subject: Skiathos Palace Hotel, Koukounaries Beach, Skiathos Island, Greece, September 25-28, 2002
Sender: "WSEAS NEWSLETTER in ELECTRICAL ENGINEERING" <svetier@europe.com>
Mime-Version: 1.0
Content-Type: text/plain; charset="ISO-8859-1"
Date: Sun, 9 Jun 2002 16:19:01 +0300
Content-Transfer-Encoding: quoted-printable
X-MIME-Autoconverted: from 8bit to quoted-printable by mail.hellasnet.gr id g59DIw9n013390

                          * * * * * * * * * *
                           WSEAS  NEWSLETTER
                          * * * * * * * * * *
EXTENSION OF THE DEADLINE. NEW DEADLINE FOR PAPER SUBMISSION: June 25, 20=
02
                                        =20
=95     2nd WSEAS Int. Conf. on SIMULATION, MODELLING AND OPTIMIZATION (ICOSM=
O
2002)
=95     2nd WSEAS Int. Conf. on SIGNAL, SPEECH AND IMAGE PROCESSING (ICOSSIP =
2002)
=95     2nd WSEAS Int. Conf. on MULTIMEDIA, INTERNET AND VIDEO TECHNOLOGIES
(ICOMIV 2002)
=95     2nd WSEAS Int. Conf. on ROBOTICS, DISTANCE LEARNING AND INTELLIGENT
COMMUNICATION SYSTEMS (ICRODIC 2002)

Skiathos Palace Hotel, Koukounaries Beach, Skiathos Island, Greece,
September 25-28, 2002=20

As you know in WSEAS Conferences (and only in WSEAS conferences)
all the accepted papers are simultaneously published in two different
international fora :=20
Proceedings + International Books
 or=20
Proceedings + WSEAS Transactions (Journals)

FREE: a very nice commemorative shirt from WSEAS will be given free to al=
l
the participants.
FREE: Except the conference material (proceedings, post-conference books,
special issues of WSEAS Trans.)
you will receive FREE some other books from WSEAS

ACCOMODATION: The place is very beautiful, the Hotel is luxurious and in
front of the sea - see the web site, many=20
distinguished
scientists (VIP of the conference) will attend,
and you will be able to publish your paper in two different
fora (in the proceedings, WSEAS Books/Journals)

The WSEAS Press will issue the proceedings and WSEAS Books/Journals
related with the multiconference using its HIGH QUALITY equipment and the
promotion of them in the university and research centers libraries as wel=
l
as in
WSEAS members and collaborators worldwide.

More Details (SCIENTIFIC COMMITTEE, etc...):
http://www.wseas.org/conferences/2002/skiathos

SEE YOU IN THE PARADISE ISLAND OF SKIATHOS

ALL THE WSEAS STAFF
http://www.wseas.org

* * * * * * * * * * * * * * *
DO YOU WANT TO UNSUBSCRIBE?
* * * * * * * * * * * * * * *
To unsubscribe, send an email to remove2002@wseas.org with subject
REMOVE or UNSUBSCRIBE. If you use different email account, include
the email account(s) that you want to unsubscribe in the Body of your
message.

If you think this email is SPAM, contact abuse@wseas.org with a copy of
this message

# July 2002

Original source file: ss.0207
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/ss.0207

## 1. Targeted and Opt-in Email Marketing

From: "E-Business News" <terrychan@binder-co.at>
Date: Tue, 02 Jul 2002 03:02:16 -1900
To: <terrychan@binder-co.at>
Message-ID: <00000d2268ca$00007586$000049aa@relay.algonet.se>
Rendered body type: text/html

Online Marketing Strategies

Need More Clients?

Increase Your Sales 15%-40% Every Month!

Targeted E-mail Marketing Is A Proven Method For Return Sales

With a database of over 150 million "targeted" addresses, we can reach your potential clients anywhere in the world. Our staff creates interactive ad campaigns, specifically targeted to your client base, and designed to produce staggering responses for your business. A steady lead source can make sure your sales team will consistently close deals.

The Greatest
Return On Your Marketing Dollar

Targeted e-mail marketing is the most effective way to reach
global and local markets with a small expense compared to that of conventional marketing.
Quality work and a dedicated professional staff will ensure your ad campaign to be successful.
Put our educated team of marketers to work for you.

Fill out the form below to speak
with one
of our marketing specialists.

Required Input Field*

Name*

Web
Address

Company
Name*

State*

Business
Phone*

Home
Phone

Email
Address*

Type of
Business

To be removed, please
Click
here. <http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/3D"mailto:d_lete507@eudoramail.com?subject=Remove_E-market=>.

## 2. Your confirmation is needed (ok 6751)

From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Fri, 05 Jul 2002 23:46:35 -0500
To: lyris.ss@tapr.org
Message-ID: <LYR6751-88249-2002.07.05-23.46.35--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Your email address 'lyris.ss@tapr.org' has been submitted to be
unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be
unsubscribed.

To confirm that you do want to unsubscribe, reply to this message so that
the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to
unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the
mailing list.

---

Return-Path: <anier@mail.com>
Received: from mail.hellasnet.gr ([212.54.192.3]) by lists.tapr.org with SMTP (Lyris Server version
3.0); Fri, 05 Jul 2002 23:46:30 -0500
Received: from mail.com (ppp3-80.pop.hellasnet.gr [193.92.197.80])
        by mail.hellasnet.gr (8.12.1/8.12.1) with SMTP id g6648XBf027327
        for <leave-ss-6751t@lists.tapr.org>; Sat, 6 Jul 2002 07:08:34 +0300 (EET DST)
Message-Id: <200207060408.g6648XBf027327@mail.hellasnet.gr>
From: "WSEAS NEWSLETTER" <anier@mail.com>
To: ss-request
Subject:
Sender: "WSEAS NEWSLETTER" <anier@mail.com>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"
Date: Sat, 6 Jul 2002 07:08:29 +0300
Content-Transfer-Encoding: 8bit

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <anier@mail.com>
Received: from mail.hellasnet.gr ([212.54.192.3]) by lists.tapr.org with SMTP (Lyris Server version
3.0); Fri, 05 Jul 2002 23:46:30 -0500
Received: from mail.com (ppp3-80.pop.hellasnet.gr [193.92.197.80])
        by mail.hellasnet.gr (8.12.1/8.12.1) with SMTP id g6648XBf027327
        for <leave-ss-6751t@lists.tapr.org>; Sat, 6 Jul 2002 07:08:34 +0300 (EET DST)
Message-Id: <200207060408.g6648XBf027327@mail.hellasnet.gr>
From: "WSEAS NEWSLETTER" <anier@mail.com>
To: <leave-ss-6751t@lists.tapr.org>
Subject: Calendar of December 2002: WSEAS CONFERENCES in SINGAPORE, TENERIFE, VOULIAGMENI (ATHENS)
Sender: "WSEAS NEWSLETTER" <anier@mail.com>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"
Date: Sat, 6 Jul 2002 07:08:29 +0300
Content-Transfer-Encoding: 8bit

Dear Colleagues,

We invite you to contribute to WSEAS Conferences that will take place in
Singapore
(Dec. 9-12, 2002), Tenerife (Dec.19-21, 2002) and Athens (Dec.29-31, 2002).

In Singapore, you will have the opportunity to participate in
*  2002 WSEAS Int.Conf. on ELECTRONICS, CONTROL AND SIGNAL PROCESSING (ECS
2002)
*  2002 WSEAS Int.Conf. on E-ACTIVITIES (E-Learning, E-Communities,
E-Commerce, E-Management,   E-Marketing, E-Governance and Tele-Working)

In Tenerife (where the session organizers will receive financial support),
the following important conferences will be held:

*  3rd WSEAS Int. Conf. on ACOUSTICS, MUSIC, SPEECH AND LANGUAGE
PROCESSING (former Acoustics and Music: Theory and Applications) (ICAMSL
2002)
*  3rd WSEAS Int. Conf. on MATHEMATICS AND COMPUTERS IN BIOLOGY AND
CHEMISTRY (MCBC 2002)
*  3rd WSEAS Int. Conf. on MATHEMATICS AND COMPUTERS IN BUSINESS AND
ECONOMICS (MCBE 2002)
*  2nd WSEAS Int. Conf. on AUTOMATION AND INFORMATION (ICAI 2002)

while in Vouliagmeni (suburb of Athens):

*  4th WSEAS Int. Conf. on MATHEMATICAL METHODS AND COMPUTATIONAL TECHNIQUES IN ELECTRICAL ENGINEERING (MMACTEE 2002)
*  1st WSEAS Int. Conf. on NON-LINEAR ANALYSIS, NON-LINEAR SYSTEMS AND CHAOS (NOLASC 2002)
*  2nd WSEAS Int. Conf. on WAVELET ANALYSIS AND MULTIRATE SYSTEMS (WAMUS 2002)

As you know in WSEAS Conferences (and only in WSEAS conferences) all the accepted papers are simultaneously published in two different international fora :
Proceedings + International Books
 or
Proceedings + WSEAS Transactions (Journals)

The places (Singapore, Tenerife, Vouliagmeni) are very beautiful, the Hotels are luxurious, many eminent researchers and university professors will attend, and you will be able to publish your paper in two different fora (in the proceedings, WSEAS Books/Journals)

The WSEAS European branch will issue the proceedings and WSEAS Books/Journals
related with the multiconference using its HIGH QUALITY equipment and the promotion of them in the university and research centers libraries as well as in
WSEAS members and collaborators worldwide.

TOPICS, SCIENTIFIC COMMITTEES, DEADLINES, FORMAT OF YOUR PAPER, etc...
see:  http://www.wseas.org

Send your paper or your abstract now to us via the appropriate web forms of each conference.

If you want to organize a Special Session or a Workshop, contact the particular email address of each conference, separately. You can find it from www.wseas.org following appropriate link.

Regards

K.Ioannou

* * * * * * * * * * * * * * *
DO YOU WANT TO UNSUBSCRIBE?
* * * * * * * * * * * * * * *

To unsubscribe, send an email to remove_for_ever@wseas.org with subject REMOVE or UNSUBSCRIBE. If you use different email account, include the email account(s) that you want to unsubscribe in the Body of your message.

If you think this email is SPAM, contact abuse@wseas.org with a copy of this message

## 3. Conference Calls Save Time and Money

From: "Telcom center" <hock@adm.inpe.br>
Date: Wed, 10 Jul 2002 01:37:59 -1900
To: <hock@adm.inpe.br>
Message-ID: <000079737b11$00000d53$00000434@servidora.adm.inpe.br>
Rendered body type: text/html

Take Control Of Your Conference Calls

Crystal Clear
Conference Calls
Only 18 Cents Per Minute!

(Anytime/Anywhere)

No setup fees

No contracts or monthly fees

Call anytime, from anywhere, to anywhere

Connects up to 100 Participants

International Dial In 18 cents per minute

Simplicity in set up and administration

Operator Help available 24/7

Get the best
quality, the easiest to use, and lowest rate in the
industry.

If you like saving money, fill
out the form below and one of our consultants will contact
you.

Required Input Field*

Name*

Web
Address

Company
Name*

State*

Business
Phone*

Home
Phone

Email
Address*

Type of
Business

To be removed from our list, please
Click
here. <http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/3D"mailto:d_lete22
0@excite.com?subject=Remove_Conferencing=>.

## 4. Your confirmation is needed (ok 6751)

From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Tue, 16 Jul 2002 06:00:36 -0500
To: lyris.ss@tapr.org
Message-ID: <LYR6751-89627-2002.07.16-06.00.36--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Your email address 'lyris.ss@tapr.org' has been submitted to be
unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be
unsubscribed.

To confirm that you do want to unsubscribe, reply to this message so that
the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to
unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the
mailing list.

---

Return-Path: <cgarner@MUNDIVIA.ES>
Received: from gzservr5.localdomain ([211.100.125.161]) by lists.tapr.org with SMTP (Lyris Server
version 3.0); Tue, 16 Jul 2002 06:00:33 -0500
Received: from mail-gw2.VOLVO.SE ([210.3.103.193])
        by gzservr5.localdomain (8.11.0/8.11.0) with ESMTP id g6GMM9J27827;
        Tue, 16 Jul 2002 18:22:11 -0400
Message-ID: <00004cfc3c5c$00001779$000052f9@mail-gw2.VOLVO.SE>
To: ss-request
From: "I-Corporate News" <cgarner@MUNDIVIA.ES>
Subject:
Date: Tue, 16 Jul 2002 03:21:57 -1900

```
MIME-Version: 1.0
Content-Type: text/html;
        charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable
X-Mailer: Microsoft Outlook Express

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <cgarner@MUNDIVIA.ES>
Received: from gzservr5.localdomain ([211.100.125.161]) by lists.tapr.org with SMTP (Lyris Server
version 3.0); Tue, 16 Jul 2002 06:00:33 -0500
Received: from mail-gw2.VOLVO.SE ([210.3.103.193])
        by gzservr5.localdomain (8.11.0/8.11.0) with ESMTP id g6GMM9J27827;
        Tue, 16 Jul 2002 18:22:11 -0400
Message-ID: <00004cfc3c5c$00001779$000052f9@mail-gw2.VOLVO.SE>
To: <cgarner@MUNDIVIA.ES>
From: "I-Corporate News" <cgarner@MUNDIVIA.ES>
Subject: Do you make conference calls?
Date: Tue, 16 Jul 2002 03:21:57 -1900
MIME-Version: 1.0
Content-Type: text/html;
        charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable
X-Mailer: Microsoft Outlook Express

<HTML><HEAD><TITLE>Take Control Of Your Conference Calls</TITLE>
<META http-equiv=3DContent-Type content=3D"text/html; charset=3Dwindows-12=
52">
<META content=3D"MSHTML 5.50.4134.600" name=3DGENERATOR></HEAD>
<BODY vLink=3D#c0c0c0 link=3D#c0c0c0 bgColor=3D#FFFFFF leftMargin=3D0><FON=
T
face=3DTimes, New Roman>
<P>
<CENTER>
<TABLE width=3D600 border=3D0>
  <TBODY>
  <TR>
    <TD align=3Dmiddle><B><FONT color=3D#000066 size=3D6>Crystal Clear
      Conference Calls<BR>Only <U>18 Cents</U> Per Minute!</B></FONT></TD>=
</TR></TBODY></TABLE>
<P><FONT color=3D#666600 size=3D5><B>(Anytime/Anywhere)</B></FONT>
<P>
<TABLE width=3D350 border=3D0>
  <TBODY>
  <TR>
    <TD><FONT color=3D#000066 size=3D3><B>
      <LI>No setup fees
      <LI>No contracts or monthly fees
      <LI>Call anytime, from anywhere, to anywhere
      <LI>Connects up to 100 Participants
      <LI>International Dial In 18 cents per minute
      <LI>Simplicity in set up and administration
      <LI>Operator Help available 24/7 </B></FONT></LI></TD></TR></TBODY><=
/TABLE>
<P>
<TABLE width=3D500 border=3D0>
  <TBODY>
  <TR>
    <TD align=3Dmiddle><FONT color=3D#666600 size=3D60><B><FONT size=3D5>G=
et the best
      quality, the easiest to use, and lowest rate in the
      industry.</B></FONT></FONT></TD></TR></TBODY></TABLE>
<P>
<TABLE width=3D400 border=3D0>
  <TBODY>
  <TR>
    <TD align=3Dmiddle><FONT color=3D#000066 size=3D4>If you like saving m=
oney, fill
      out the form below and one of our consultants will contact
  you.</FONT></TD></TR></TBODY></TABLE>
<P><FONT color=3D#000066 size=3D2>Required Input Field<FONT color=3D#66660=
0
size=3D2>*</FONT></FONT>
<P>
<TABLE cellSpacing=3D0 borderColorDark=3D#333300 cellPadding=3D3 width=3D6=
```

```
00
borderColorLight=3D#ffffcc>
  <TBODY>
  <TR>
    <TD align=3Dmiddle>
      <FORM action=3Dmailto:inbocks1@yahoo.com?subject=3DAudioC_Inquiry
      method=3Dpost encType=3Dtext/plain>
      <TABLE width=3D"100%">
        <TBODY>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#000066
          size=3D2>Name</FONT><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#666600
            size=3D2>*</FONT></TD>
          <TD><INPUT name=3DNAME></TD></TR>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#000066 size=3D2=
>Web
            Address</FONT></TD>
          <TD><INPUT value=3Dhttp:// name=3DURL></TD></TR>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#000066 size=3D2=
>Company
            Name</FONT><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#666600
            size=3D2>*</FONT></TD>
          <TD><INPUT name=3DCOMPANY_NAME></TD></TR>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#000066 size=3D2=
>
            State</FONT><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#666600
            size=3D2>*</FONT></TD>
          <TD><INPUT size=3D2 name=3DSTATE></TD></TR>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#000066 size=3D2=
>Business
            Phone</FONT><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#666600
            size=3D2>*</FONT></TD>
          <TD><INPUT name=3DBUS_PHONE></TD></TR>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#000066 size=3D2=
>Home
            Phone</FONT></TD>
          <TD><INPUT name=3DHOME_PHONE></TD></TR>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#000066 size=3D2=
>Email
            Address</FONT><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#666600
            size=3D2>*</FONT></TD>
          <TD><INPUT name=3DEMAIL></TD></TR>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#000066 size=3D2=
>Type of
            Business</FONT></TD>
          <TD><INPUT name=3DTYPE_OF_BUSINESS></TD></TR></TBODY></TABLE>
      <P><INPUT type=3Dsubmit value=3D"Submit Information" name=3Dsubmit>
    </FORM></P></TD></TR></TBODY></TABLE>
<BR><BR>
<TABLE width=3D500>
  <TBODY>
  <TR>
    <TD align=3Dmiddle><FONT face=3D"Arial, Helvetica, sans-serif"><font c=
olor=3D#666600
      size=3D1>To be removed from our list, please
      <A href="http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/3D&amp;quot;ma
ilto:d_lete1610@postino.ch?subject=3DRemove_Conferencin="
g">Click
      here.<FONT color=3D#666600></A></FONT>.</FONT></TD></TR></TBODY></TA=
```

BLE></P></CENTER></BODY></HTML>

## 5. [ss] Re: 802.11b wireless lan equipment and ham radio ?

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Wed, 17 Jul 2002 16:04:41 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: ss@lists.tapr.org
Message-ID: <LYR6751-89815-2002.07.17-16.43.13--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>>Anyone know if this is possible (well legal I know the mods are
>>technically possible) in VK?  The US and Australian laws are similar but
>>maybe the differences are enough to thwart it.
>>
>> - Craig

According to Document BR68 where much of it is in a table format called the Schedule, from 2400-2450 MHz licensed hams can run upto 400W (26dBW) and the Permitted Types of Transmission include: (5th column) Morse, Telephony, RTTY, Data, Facsimilie, SSTV, FSTV.

>NOTES TO SCHEDULE
>(d) *Any modulation technique* (except for pulse emissions below 1000 MHz) may be used >for the types of transmission specified in the fifth column of the Schedule which are >defined as follows:
>Morse    : hand or automatically-sent Morse code
>Telephony: speech, including selective calling signals
>RTTY     : radio teletype and AMTOR
>Data*    : digital codes representing numbers, text, speech, images, measurements,     >           computer programs or other Information authorised by the Licence
>Facsimile: transmission of fixed or graphic images
>SSTV     : slow scan (ie, reduced bandwidth) television
>FSTV     : fast scan television.

Reading that makes me believe using Spread Spectrum is legal in the UK under Amateur their rules..

>IDENTIFICATION - 7(1)
>(d) by the same type of transmission that is being used for the
>communication;

Reads basically the same here, nesting your call in the ethernet datagram should fullfill this.

Hope this helps, 73' Steve
http://www.qsl.net/kb9mwr/projects/wireless/Ham_Ethernet_GBPPR.pdf

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 6. [ss] Re: 802.11b wireless lan equipment and ham radio ?

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Thu, 18 Jul 2002 08:09:10 +1000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-89841-2002.07.17-17.47.41--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> >>Anyone know if this is possible (well legal I know the mods are
> >>technically possible) in VK?  The US and Australian laws
> are similar but
> >>maybe the differences are enough to thwart it.

To answer the VK question, as far as I can tell, any emission mode is legal above 420 MHz, provided you ID in an internationally recognised code (ASCII callsign beacons riding on UDP, or even 802.11b MAC address set to your callsign sound like they're internationally recognised).  However, I suspect we would need some sort of authentication system (would probably have to be challenge-response) to ensure non amateurs can't access the network, since it's shared with unlicenced people who are using the same equipment.

The frequencies can be set (at least under *NIX - some Windows drivers don't provide that functionality) to one of the channels that falls within the amateur band.

This correspondence is for the named person□s use only. It may contain
confidential or legally privileged information or both. No confidentiality
or privilege is waived or lost by any mistransmission. If you receive this
correspondence in error, please immediately delete it from your system and
notify the sender. You must not disclose, copy or rely on any part of this
correspondence if you are not the intended recipient.

Any opinions expressed in this message are those of the individual sender.


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 7. [ss] Write for PSR

From: "stanzepa@earthlink.net" <stanzepa@earthlink.net>
Date: Thu, 18 Jul 2002 13:17:24 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: stanzepa@earthlink.net
Message-ID: <LYR6751-90021-2002.07.18-13.03.17--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

TAPR members:

Here is your chance to become rich and famous! Well, maybe not rich, but
certainly famous.

The editorial board of Packet Status Register (PSR, TAPR□s quarterly
newsletter) is now soliciting articles, news items, etc. for the next issue
of the newsletter. Topics related to digital Amateur Radio will be given
preference and the editorial board reserves the right to determine what is
suitable for publication.

E-mail your contributions to wa1lou@tapr.org ASAP because the deadline for
the next issue of the newsletter is July 24.

73,

Stan Horzepa, WA1LOU, PSR Editor


---
mail2web - Check your email from the web at
http://mail2web.com/ .



---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 8. Your confirmation is needed (ok 6751)

From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Wed, 24 Jul 2002 05:28:19 -0500
To: lyris.ss@tapr.org
Message-ID: <LYR6751-90844-2002.07.24-05.28.19--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Your email address 'lyris.ss@tapr.org' has been submitted to be
unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be
unsubscribed.

To confirm that you do want to unsubscribe, reply to this message so that
the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to
unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the
mailing list.

---

```
Return-Path: <emailharvest@email.com>
Received: from localhost.com ([218.0.77.169]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Wed, 24 Jul 2002 05:28:17 -0500
From: emailharvest@email.com
Reply-To: emailharvest@email.com
To: ss-request
Date: Wed, 24 Jul 2002 17:49:22 +0800
Subject:
X-Mailer: QuickSender 1.05
MIME-Version: 1.0
Content-Type: text/html; charset="us-ascii"
Content-Transfer-Encoding: quoted-printable

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <emailharvest@email.com>
Received: from localhost.com ([218.0.77.169]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Wed, 24 Jul 2002 05:28:17 -0500
From: emailharvest@email.com
Reply-To: emailharvest@email.com
To: leave-ss-6751t@lists.tapr.org
Date: Wed, 24 Jul 2002 17:49:22 +0800
Subject: Harvest lots of E-mail addresses quickly !
X-Mailer: QuickSender 1.05
MIME-Version: 1.0
Content-Type: text/html; charset="us-ascii"
Content-Transfer-Encoding: quoted-printable

Dear leave-ss-6751t =2C

=3CBODY bgColor=3D#ffccff=3E
=3CTABLE border=3D0 cellPadding=3D0 cellSpacing=3D0 width=3D475=3E
  =3CTBODY=3E
  =3CTR=3E
    =3CTD align=3Dmiddle vAlign=3Dtop=3E=3C=2FTD=3E=3C=2FTR=3E=3C=2FTBODY=3E=3C=2FTABLE=3E=3CBR=3E
=3CTABLE=3E
  =3CTBODY=3E
  =3CTR=3E
    =3CTD width=3D=225%=22=3E=3C=2FTD=3E
    =3CTD bgColor=3D#b8ecff borderColor=3D#0000ff width=3D=2290%=22=3E=3CFONT color=3D#ff0000
      face=3D=22Arial Black=22
      size=3D6=3E =3B =3B =3B =3B =3B =3B =3B =3B =3B =3B =3B Want

      To Harvest A Lot Of Email =3B =3B Addresses In A Very Short Time=3F=3C=2FFONT=3E
      =3CP=3E=3CB=3E=3CFONT color=3D#0000ff face=3DArial size=3D4=3EEasy Email
      Searcher=3C=2FFONT=3E=3CFONT color=3D#ff00ff face=3DArial size=3D4=3E =3B is =3B
      a =3B powerful =3B Email =3B software =3B =3B that =3B
      harvests general Email lists from mail servers =3B =3B =3C=2FFONT=3E=3CFONT
      color=3D#0000ff face=3DArial size=3D4=3EEasy Email Searcher =3C=2FFONT=3E=3CFONT
      color=3D#ff00ff face=3DArial size=3D4=3Ecan get 100=2C000 Email=3C=2FFONT=3E=3C=2FB=3E =3CFONT
      color=3D#ff00ff face=3DArial size=3D4=3E=3CB=3Eaddresses directly from the Email
      servers in only one hour! =3B=3C=2FB=3E=3C=2FFONT=3E=3C=2FP=3E
      =3CUL=3E
        =3CLI=3E=3CFONT face=3DArial size=3D2=3E=3CB=3E=3CFONT color=3D#0000ff=3EEasy Email
        Searcher=3C=2FFONT=3E=3C=2FB=3E is a 32 bit Windows Program for e-mail marketing=2E It
        is intended for easy and convenient search large e-mail address lists
        from mail servers=2E The program can be operated on Windows 95=2F98=2FME=2F2000
        and NT=2E=3C=2FFONT=3E
        =3CLI=3E=3CFONT face=3DArial size=3D2=3E=3CB=3E=3CFONT color=3D#0000ff=3EEasy Email
        Searcher=3C=2FFONT=3E =3C=2FB=3Esupport multi-threads =28up to 512
        connections=29=2E=3C=2FFONT=3E
        =3CLI=3E=3CFONT face=3DArial size=3D2=3E=3CB=3E=3CFONT color=3D#0000ff=3EEasy Email
        Searcher=3C=2FFONT=3E=3C=2FB=3E has the ability =3B to reconnect to the mail
        server if the server has disconnected and continue the searching at the
        point where it has been interrupted=2E=3C=2FFONT=3E
        =3CLI=3E=3CFONT face=3DArial size=3D2=3E=3CB=3E=3CFONT color=3D#0000ff=3EEasy Email
        Searcher=3C=2FFONT=3E=3C=2FB=3E has an ergonomic interface that is easy to set up
        and simple to use=2E=3C=2FFONT=3E =3C=2FLI=3E=3C=2FUL=3E
      =3CP=3E=A1=A1=3CB=3E=3CFONT color=3D#0000ff face=3DArial=3EEasy Email Searcher is an email
      address searcher and bulk e-mail sender=2E It can verify more than 5500
      email addresses per minute at only 56Kbps speed=2E It even allows you send
      email to valid email address while searching=2E You can save the searching
      progress and load it to resume work at your convenience=2E All you need to
      do is just input an email address=2C and press the =22Search=22
      button=2E=3C=2FFONT=3E=3C=2FB=3E=3C=2FP=3E
```

```
      =3CP=3E=3CB=3E=3CFONT color=3D#0000ff face=3DArial=3E=3CBR=3E=3C=2FFONT=3E=3Cfont face=3D=22Comic
Sans MS=22 size=3D=224=22 color=3D=22#FF00FF=22=3EVery
      Low Price ! ------- =3B Now=2C =3B The full version of Easy Email
      Searcher only costs =3C=2Ffont=3E=3Cfont face=3D=22Comic Sans MS=22 size=3D=224=22
color=3D=22#0000FF=22=3E$
      39=2E 95=3C=2Ffont=3E=3C=2FB=3E=3C=2FP=3E
      =3CP=3E=3CB=3E=3CFONT color=3D#ff0000 face=3DArial size=3D4=3E=3CI=3EClick The Following Link To

      Download The Demo =3A=3C=2FI=3E=3C=2FFONT=3E=3C=2FB=3E=3C=2FP=3E
      =3CP=3E=3CB=3E=3CFONT color=3D#ff0000 face=3DArial size=3D4=3E=3CA
      href=3D=22http=3A=2F=2Fwww=2Ewldinfo=2Ecom=2Fdownload=2Femail=2Fnewees=2Ezip=22=3EDownload Site
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      =3CP=3E=3CB=3E=3CFONT color=3D#ff0000 face=3DArial size=3D4=3E=3CA
      href=3D=22http=3A=2F=2Fbestsoft=2E3322=2Eorg=2Fonlinedown=2Fnewees=2Ezip=22=3EDownload Site

2=3C=2FA=3E =3B =3B =3B =3B =3B =3B =3B =3B =3B =3B =3B
=3C=2FFONT=3E=3C=2FB=3E=A1=A1=3CFONT color=3D#0000a0 face=3DArial
      size=3D3=3E=3CSTRONG=3EIf =3B you can not download this program =2C =3B please
      copy the following link into your URL =2C and then click =22 Enter=22 on your
      Computer Keyboard=2E=3C=2FSTRONG=3E=3C=2FFONT=3E=3C=2FP=3E
      =3CP=3E=3CFONT size=3D2=3E=3CFONT color=3D#0000a0 face=3DArial size=3D3=3E=3CSTRONG=3EHere is the

      download links=3A=3C=2FSTRONG=3E=3C=2FFONT=3E=3C=2FP=3E
      =3CDIV=3E
      =3CP=3Ehttp=3A=2F=2Fwww=2Ewldinfo=2Ecom=2Fdownload=2Femail=2Fnewees=2Ezip=3C=2FP=3E

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      =3CP=3E=3C=2FP=3E=3C=2FTD=3E
    =3CTD width=3D=225%=22=3E=3C=2FTD=3E=3C=2FTR=3E
  =3CTR=3E
    =3CTD width=3D=225%=22=3E=3C=2FTD=3E
    =3CTD bgColor=3D#0f95de width=3D=2290%=22=3E=3CFONT color=3D#ffffff
      face=3D=22Verdana=2C Tahoma=2C Helvetica=2C SansSerif=22
      size=3D1=3E=3CB=3EDisclaimer=3A=3C=2FB=3E=3CBR=3EWe are strongly against continuously sending
      unsolicited emails to those who do not wish to receive our special
      mailings=2E We have attained the services of an independent 3rd party to
      overlook list management and removal services=2E This is not unsolicited
      email=2E If you do not wish to receive further mailings=2C please click this
      link =3CA href=3D=22 mailto=3Aremoval=40btamail=2Enet=2Ecn =22
      target=3D=5Fblank=3E=3CFONT
      color=3D#fdd32a=3E=3CB=3Emailto=3Aremoval=40btamail=2Enet=2Ecn
      =3C=2FB=3E=3C=2FFONT=3E=3C=2FA=3E=2E =3B=3C=2FFONT=3E=3CB=3E=3CFONT class=3Ddisclaimer
color=3D#000080
      face=3DArial=3E=3CBR=3EThis message is a commercial advertisement=2E It is compliant
      with all federal and state laws regarding email messages including the
      California Business and Professions Code=2E We have provided the subject
      line =22ADV=22 to provide you notification that this is a commercial
      advertisement for persons over 18yrs old=2E=3C=2FFONT=3E=3C=2FB=3E=3C=2FTD=3E
    =3CTD width=3D=225%=22=3E=3C=2FTD=3E=3C=2FTR=3E=3C=2FTBODY=3E=3C=2FTABLE=3E
=3CBR=3E
```

## 9. Your confirmation is needed (ok 6751)

```
From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Thu, 25 Jul 2002 02:13:22 -0500
To: lyris.ss@tapr.org
Message-ID: <LYR6751-90973-2002.07.25-02.13.22--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Your email address 'lyris.ss@tapr.org' has been submitted to be
unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be
unsubscribed.

To confirm that you do want to unsubscribe, reply to this message so that
the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to
unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the
mailing list.

---
```

```
Return-Path: <k.Jones@empyreum.cz>
Received: from um.grudziadz.pl ([212.160.232.137]) by lists.tapr.org with SMTP (Lyris Server version
3.0); Thu, 25 Jul 2002 02:13:14 -0500
Received: from mail.cro.ie (maq194g.advance.com.ar [200.41.231.194] (may be forged))
        by um.grudziadz.pl (8.11.0/8.10.2/SuSE Linux 8.10.0-0.3) with SMTP id g6P8cr515566;
        Thu, 25 Jul 2002 10:38:56 +0200
X-Authentication-Warning: um.grudziadz.pl: Host maq194g.advance.com.ar [200.41.231.194] (may be forged)
claimed to be mail.cro.ie
Message-ID: <000077d75b7f$00004e3f$000073ca@mail.cro.ie>
To: ss-request
From: "Web Services" <k.Jones@empyreum.cz>
Subject:
Date: Wed, 24 Jul 2002 23:34:13 -1900
MIME-Version: 1.0
Content-Type: text/html;
        charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable
X-Mailer: Microsoft Outlook Express

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <k.Jones@empyreum.cz>
Received: from um.grudziadz.pl ([212.160.232.137]) by lists.tapr.org with SMTP (Lyris Server version
3.0); Thu, 25 Jul 2002 02:13:14 -0500
Received: from mail.cro.ie (maq194g.advance.com.ar [200.41.231.194] (may be forged))
        by um.grudziadz.pl (8.11.0/8.10.2/SuSE Linux 8.10.0-0.3) with SMTP id g6P8cr515566;
        Thu, 25 Jul 2002 10:38:56 +0200
X-Authentication-Warning: um.grudziadz.pl: Host maq194g.advance.com.ar [200.41.231.194] (may be forged)
claimed to be mail.cro.ie
Message-ID: <000077d75b7f$00004e3f$000073ca@mail.cro.ie>
To: <k.Jones@empyreum.cz>
From: "Web Services" <k.Jones@empyreum.cz>
Subject: Minimize your phone expenses
Date: Wed, 24 Jul 2002 23:34:13 -1900
MIME-Version: 1.0
Content-Type: text/html;
        charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable
X-Mailer: Microsoft Outlook Express

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face=3DMicrosoft, Sans Sarif>
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FERENCING</font></b>
      <HR><FONT color=3D#2F2F4F size=3D4>Subscribe to the Web Conference C=
enter for only $40.00 per month!
</FONT>
<br>
<FONT color=3D#42426F size=3D3>(Connects up to 15 participants at a time p=
lus audio charges)</font></TD></TR></TBODY></TABLE><P>
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  <TBODY>
  <TR>
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      <LI>Conduct real-time interactive meetings and presentations<br> ove=
r the Internet
      <LI>Application sharing
      <LI>Review and revise documents in real-time
      <LI>Record and archive your meeting
      <LI>Simulate a live Classroom
      <LI>Quickly hold a meeting with anyone anywhere in the world
      <LI>Lowest rate $.18 per minute for audio (toll charges<br> included=
) Call anytime, from anywhere, to anywhere
      <LI>Quality, easy to use service</B></FONT></LI></TD></TR></TBODY></=
TABLE>
```

```
<P>
<TABLE width=3D500 border=3D0>
  <TBODY>
  <TR>
    <TD align=3D"left"><FONT color=3D#42426F size=3D4><B>FREE DEMO</B></fo=
nt>
<BR><BR>
<FONT color=3D#42426F size=3D5><B>Eliminate or Reduce Travel Expense</b></=
font>
<BR><FONT color=3D#2F2F4F size=3D4><B>
Try this on for savings...
and turn those unnecessary trips into problem solving and fact finding con=
ferences,
saving time and wear and tear on your overworked business staff.
</B></FONT></TD></TR></TBODY></TABLE>
<P>
<TABLE width=3D350 border=3D0>
  <TBODY>
  <TR>
    <TD align=3Dmiddle><FONT color=3D#42426F size=3D4>To find out more abo=
ut this revolutionary concept,
fill out the form below.</FONT></TD></TR></TBODY></TABLE>
<P><FONT color=3D#2F2F4F size=3D2><b>Required Input Field<FONT color=3D#5C=
4033
size=3D2>*</FONT></b>
<P>
<TABLE cellSpacing=3D0 borderColorDark=3D#333300 cellPadding=3D3 width=3D6=
00
borderColorLight=3D#ffffcc>
  <TBODY>
  <TR>
    <TD align=3Dmiddle>
      <FORM action=3Dmailto:conferencing1001@firemail.de?subject=3DWebC_In=
quiry
      method=3Dpost encType=3Dtext/plain>
      <TABLE width=3D"100%">
        <TBODY>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#2F2F4F
          size=3D2><b>Name</b></FONT><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#5C4033
            size=3D2>*</FONT></TD>
          <TD><INPUT name=3DNAME></TD></TR>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#2F2F4F size=3D2=
><b>Web
            Address</b></FONT></TD>
          <TD><INPUT value=3Dhttp:// name=3DURL></TD></TR>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#2F2F4F size=3D2=
><b>Company
            Name</b></FONT><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#5C4033
            size=3D2>*</FONT></TD>
          <TD><INPUT name=3DCOMPANY_NAME></TD></TR>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#2F2F4F size=3D2=
><b>
            State</b></FONT><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#5C4033
            size=3D2>*</FONT></TD>
          <TD><INPUT size=3D2 name=3DSTATE></TD></TR>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#2F2F4F size=3D2=
><b>Business
            Phone</b></FONT><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#5C4033
            size=3D2>*</FONT></TD>
          <TD><INPUT name=3DBUS_PHONE></TD></TR>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#2F2F4F size=3D2=
><b>Home
            Phone</b></FONT></TD>
```

```
          <TD><INPUT name=3DHOME_PHONE></TD></TR>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#2F2F4F size=3D2=
><b>Email
            Address</b></FONT><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#5C4033
            size=3D2>*</FONT></TD>
          <TD><INPUT name=3DEMAIL></TD></TR>
        </TBODY></TABLE>
      <P><INPUT type=3Dsubmit value=3D"Submit Information" name=3Dsubmit>
    </FORM></P></TD></TR></TBODY></TABLE>
<BR><BR>
<TABLE width=3D350>
  <TBODY>
  <TR>
    <TD align=3Dmiddle><FONT color=3D#000000 size=3D1><b>All information g=
iven herein is strictly confidential and will not be re-distributed
      for any reason other than for the specific use intended.</font></b><=
br>
      <FONT face=3D"Arial, Helvetica, sans-serif" color=3D#000000
      size=3D1>To be removed from our distribution lists, please
      <A href="http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/3D&amp;quot;ma
ilto:inbocks1811@firemail.com?subject=3DRemove_WebC&amp;quot;">Cl=
ick
      here.<FONT color=3D#666600></A></FONT>.</FONT></TD></TR></TBODY></TA=
BLE></P></CENTER></BODY></HTML>
```

## 10. Your confirmation is needed (ok 6751)

```
From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Tue, 30 Jul 2002 11:10:27 -0500
To: lyris.ss@tapr.org
Message-ID: <LYR6751-91883-2002.07.30-11.10.27--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain
```

```
Your email address 'lyris.ss@tapr.org' has been submitted to be
unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be
unsubscribed.

To confirm that you do want to unsubscribe, reply to this message so that
the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to
unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the
mailing list.

---

Return-Path: <ioannou@vip.gr>
Received: from ux.snd.edu.gr ([194.219.139.5]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Tue, 30 Jul 2002 11:10:20 -0500
Received: from forthnet.gr (athmta03a.forthnet.gr [193.92.150.126])
        by ux.snd.edu.gr (8.9.3/8.9.3) with ESMTP id SAA12756
        for <ioannou@ux.snd.edu.gr>; Thu, 11 Jul 2002 18:05:15 +0300
Received: from pc3 (ppp61.ret.forthnet.gr [193.92.109.171])
        by forthnet.gr (8.12.2/8.12.2) with SMTP id g6BFIhRn026555
        for <ioannou@ux.snd.edu.gr>; Thu, 11 Jul 2002 18:18:44 +0300
Message-ID: <002101c22901$218585e0$0301a8c0@pc3>
From: "K.Ioannou" <ioannou@vip.gr>
To: ss-request
Subject:
Date: Thu, 11 Jul 2002 20:33:54 +0300
MIME-Version: 1.0
Content-Type: text/plain;
        charset="iso-8859-7"
Content-Transfer-Encoding: 7bit
X-Priority: 3
X-MSMail-Priority: Normal
X-Mailer: Microsoft Outlook Express 6.00.2600.0000
X-MimeOLE: Produced By Microsoft MimeOLE V6.00.2600.0000

# Mail sent to leave-ss-6751t was converted to these commands:
```

unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <ioannou@vip.gr>
Received: from ux.snd.edu.gr ([194.219.139.5]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Tue, 30 Jul 2002 11:10:20 -0500
Received: from forthnet.gr (athmta03a.forthnet.gr [193.92.150.126])
        by ux.snd.edu.gr (8.9.3/8.9.3) with ESMTP id SAA12756
        for <ioannou@ux.snd.edu.gr>; Thu, 11 Jul 2002 18:05:15 +0300
Received: from pc3 (ppp61.ret.forthnet.gr [193.92.109.171])
        by forthnet.gr (8.12.2/8.12.2) with SMTP id g6BFIhRn026555
        for <ioannou@ux.snd.edu.gr>; Thu, 11 Jul 2002 18:18:44 +0300
Message-ID: <002101c22901$218585e0$0301a8c0@pc3>
From: "K.Ioannou" <ioannou@vip.gr>
To: <Undisclosed-Recipient:@ux.snd.edu.gr;>
Subject: 7th WSEAS CSCC International Multiconference
Date: Thu, 11 Jul 2002 20:33:54 +0300
MIME-Version: 1.0
Content-Type: text/plain;
        charset="iso-8859-7"
Content-Transfer-Encoding: 7bit
X-Priority: 3
X-MSMail-Priority: Normal
X-Mailer: Microsoft Outlook Express 6.00.2600.0000
X-MimeOLE: Produced By Microsoft MimeOLE V6.00.2600.0000

CALL FOR PAPERS
7th WSEAS CSCC International Multiconference composed by:

7th WSEAS Int.Conference on CIRCUITS
http://www.wseas.org/conferences/2003/corfu/icc

7th WSEAS Int.Conference on SYSTEMS
http://www.wseas.org/conferences/2003/corfu/ics

7th WSEAS Int.Conference on COMMUNICATIONS
http://www.wseas.org/conferences/2003/corfu/iccom

7th WSEAS Int.Conference on COMPUTERS
http://www.wseas.org/conferences/2003/corfu/iccomp

Corfu Island, Greece, June 25-28, 2003

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NOTIFICATION OF ACCEPTANCE: FEBRUARY 15, 2003

GENERAL CHAIR:
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or WSEAS Journals:
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WSEAS TRANSACTIONS ON SYSTEMS
WSEAS TRANSACTIONS ON COMMUNICATIONS
WSEAS TRANSACTIONS ON COMPUTERS
WSEAS TRANSACTIONS ON MATHEMATICS

More Information: See the web pages

## 11. Your confirmation is needed (ok 6751)

From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Wed, 31 Jul 2002 18:28:54 -0500
To: lyris.ss@tapr.org
Message-ID: <LYR6751-92149-2002.07.31-18.28.54--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Your email address 'lyris.ss@tapr.org' has been submitted to be
unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be
unsubscribed.

To confirm that you do want to unsubscribe, reply to this message so that
the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to

```
unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the
mailing list.

---

Return-Path: <max9249@avv.rws.minvenw.nl>
Received: from ns1.teleforce.co.jp ([202.220.205.240]) by lists.tapr.org with SMTP (Lyris Server version
 3.0); Wed, 31 Jul 2002 18:28:48 -0500
Received: from mail.euroweg.at (pa27.pszczyna.sdi.tpnet.pl [217.96.210.27])
          by ns1.teleforce.co.jp (2.6 Build 9 (Berkeley 8.8.6)/8.8.4) with ESMTP
          id HAA04519; Thu, 01 Aug 2002 07:46:10 +0900
Message-ID: <00001b4c1732$00005d87$00001d85@acserv1.asus.com.cn>
To: ss-request
From: "Jessica Baretta" <max9249@avv.rws.minvenw.nl>
Subject:
Date: Wed, 31 Jul 2002 15:48:44 -1900
MIME-Version: 1.0
Content-Type: text/html;
        charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable
X-Mailer: Microsoft Outlook Express

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <max9249@avv.rws.minvenw.nl>
Received: from ns1.teleforce.co.jp ([202.220.205.240]) by lists.tapr.org with SMTP (Lyris Server version
 3.0); Wed, 31 Jul 2002 18:28:48 -0500
Received: from mail.euroweg.at (pa27.pszczyna.sdi.tpnet.pl [217.96.210.27])
          by ns1.teleforce.co.jp (2.6 Build 9 (Berkeley 8.8.6)/8.8.4) with ESMTP
          id HAA04519; Thu, 01 Aug 2002 07:46:10 +0900
Message-ID: <00001b4c1732$00005d87$00001d85@acserv1.asus.com.cn>
To: <max9249@avv.rws.minvenw.nl>
From: "Jessica Baretta" <max9249@avv.rws.minvenw.nl>
Subject: Home Equity Loans
Date: Wed, 31 Jul 2002 15:48:44 -1900
MIME-Version: 1.0
Content-Type: text/html;
        charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable
X-Mailer: Microsoft Outlook Express

<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0 Transitional//EN">
<!-- saved from url=3D(0022)http://internet.e-mail --><HTML><HEAD><TITLE>N=
ew Web Technology</TITLE>
<META http-equiv=3DContent-Type content=3D"text/html; charset=3Dwindows-12=
52">
<META content=3D"MSHTML 6.00.2713.1100" name=3DGENERATOR></HEAD>
<BODY vLink=3D#c0c0c0 link=3D#c0c0c0 bgColor=3D#ffffff leftMargin=3D0><FON=
T face=3DArial>
<P>
<CENTER>
<TABLE width=3D500 border=3D0>
  <TBODY>
  <TR>
    <TD align=3Dmiddle><B><FONT color=3D#336633 size=3D5>Mortgage Rates Sl=
ashed For
      The Last Time!</FONT></B>
      <HR>
      <FONT color=3D#000000 size=3D2><B>Let us help you get a new mortgage=
 for up to
      100% of your home value</B>
      <P>
      <TABLE width=3D300 border=3D0>
        <TBODY>
        <TR>
          <TD align=3Dleft><FONT color=3D#000000 size=3D4>
            <LI>Lower your monthly payment!
            <LI>Consolidate your debt!
            <LI>Shorten the term of your loan!
            <LI>Reduce your interest rate! </FONT></LI></TD></TR></TBODY><=
```

```
/TABLE>
      <P><FONT color=3D#ff0000 size=3D3><B>National Average Mortgage
      Rates</B></FONT> <BR><BR>
      <TABLE cellSpacing=3D2 cellPadding=3D5 border=3D4>
        <TBODY>
        <TR bgColor=3D#cccccc>
          <TD><B>Program</B></TD>
          <TD><B>Rates</B></TD></TR></B>
        <TR bgColor=3D#ffffff>
          <TD>30 Yr Fixed</TD>
          <TD>6.50%</TD></TR>
        <TR bgColor=3D#ffffff>
          <TD>15 Yr Fixed</TD>
          <TD>6.25%</TD></TR>
        <TR bgColor=3D#ffffff>
          <TD>1 Yr Arm</TD>
          <TD>5.51%</TD></TR></TBODY></TABLE>
      <P>
      <TABLE width=3D350 border=3D0>
        <TBODY>
        <TR>
          <TD align=3Dmiddle><FONT color=3D#336633 size=3D4>Choose From Hu=
ndreds of
            <BR>Loan Programs Like: </FONT></TD></TR></TBODY></TABLE>
      <P>
      <TABLE width=3D200 border=3D0>
        <TBODY>
        <TR>
          <TD align=3Dleft><FONT color=3D#000000 size=3D3><B>
            <LI>Purchase Loans
            <LI>Refinance
            <LI>Debt Consolidation
            <LI>Home Improvement
            <LI>Interest Only Jumbo's
            <LI>No Income Verification </B></FONT></LI></TD></TR></TBODY><=
/TABLE>
      <P>
      <TABLE width=3D350 border=3D0>
        <TBODY>
        <TR>
          <TD align=3Dmiddle><FONT color=3D#336633 size=3D4>Fill Out This =
Simple
            Form and We Will Compete For Your Business...
      </FONT></TD></TR></TBODY></TABLE>
      <P><FONT color=3D#000000 size=3D2><B>Required Input Field<FONT color=
=3D#ff0000
      size=3D2>*</FONT></B>
      <P>
      <TABLE cellSpacing=3D0 borderColorDark=3D#333300 cellPadding=3D3 wid=
th=3D600
      borderColorLight=3D#ffffcc>
        <TBODY>
        <TR>
          <TD align=3Dmiddle>
            <FORM action=3Dmailto:glmortgage1011@firemail.de?subject=3DMor=
tgage_Inquiry
            method=3Dpost encType=3Dtext/plain>
            <TABLE width=3D"100%">
              <TBODY>
              <TR>
                <TD align=3Dright width=3D"50%"><FONT
                  face=3D"Arial, Helvetica, sans-serif" color=3D#000000
                  size=3D2><B>Name</B></FONT><FONT
                  face=3D"Arial, Helvetica, sans-serif" color=3D#ff0000
                  size=3D2>*</FONT></TD>
                <TD><INPUT name=3DNAME></TD></TR>
              <TR>
                <TD align=3Dright width=3D"50%"><FONT
                  face=3D"Arial, Helvetica, sans-serif" color=3D#000000
                  size=3D2><B>Address</B></FONT></TD>
                <TD><INPUT name=3DAddress></TD></TR>
              <TR>
                <TD align=3Dright width=3D"50%"><FONT
                  face=3D"Arial, Helvetica, sans-serif" color=3D#000000
                  size=3D2><B>City </B></FONT></TD>
                <TD><INPUT name=3DCity></TD></TR>
              <TR>
                <TD align=3Dright width=3D"50%"><FONT
                  face=3D"Arial, Helvetica, sans-serif" color=3D#000000
```

```
                  size=3D2><B>State</B></FONT><FONT
                  face=3D"Arial, Helvetica, sans-serif" color=3D#ff0000
                  size=3D2>*</FONT></TD>
                <TD><INPUT size=3D2 name=3DSTATE></TD></TR>
              <TR>
                <TD align=3Dright width=3D"50%"><FONT
                  face=3D"Arial, Helvetica, sans-serif" color=3D#000000
                  size=3D2><B>Zip Code </B></FONT><FONT
                  face=3D"Arial, Helvetica, sans-serif" color=3D#ff0000
                  size=3D2>*</FONT></TD>
                <TD><INPUT name=3DZip_Code></TD></TR>
              <TR>
                <TD align=3Dright width=3D"50%"><FONT
                  face=3D"Arial, Helvetica, sans-serif" color=3D#000000
                  size=3D2><B>Buiness Phone</B></FONT><FONT
                  face=3D"Arial, Helvetica, sans-serif" color=3D#ff0000
                  size=3D2>*</FONT></TD></FONT>
                <TD><INPUT name=3DBus_phone></TD></TR>
              <TR>
                <TD align=3Dright width=3D"50%"><FONT
                  face=3D"Arial, Helvetica, sans-serif" color=3D#000000
                  size=3D2><B>Home Phone </B></FONT></TD>
                <TD><INPUT name=3DHome_phone></TD></TR>
              <TR>
                <TD align=3Dright width=3D"50%"><FONT face=3DArial color=3D=
#000000
                  size=3D2><B>Best time to contact</FONT></B></TD>
                <TD width=3D"56%"><FONT color=3D#000000><SELECT size=3D1 n=
ame=3DBest_time_to_contact>
                   <OPTION selected></OPTION> <OPTION
                    value=3DMorning>Morning</OPTION> <OPTION
                    value=3DAfternoon>Afternoon</OPTION> <OPTION
                    value=3DEvening>Evening</OPTION></SELECT></FONT></TD><=
/TR></B>
              <TR>
                <TD align=3Dright width=3D"50%"><FONT
                  face=3D"Arial, Helvetica, sans-serif" color=3D#000000
                  size=3D2><B>Total Loan Request </B></FONT></TD>
                <TD><INPUT name=3DLoan Request></TD></TR>
              <TR>
                <TD align=3Dright width=3D"50%"><FONT
                  face=3D"Arial, Helvetica, sans-serif" color=3D#000000
                  size=3D2><B>Approx. Home Value</B></FONT></TD>
                <TD><INPUT name=3DApprox._Home_Value></TD></TR></TBODY></T=
ABLE>
            <P><INPUT type=3Dsubmit value=3D"Submit Information" name=3Dsu=
bmit>
            </FORM></P></TD></TR></TBODY></TABLE><BR>
      <P>
      <TABLE width=3D350 border=3D0>
        <TBODY>
        <TR>
          <TD align=3Dmiddle><FONT color=3D#000000 size=3D4>
            <MARQUEE>A consultant will contact you soon.
        </FONT></FONT></TD></TR></TBODY></MARQUEE></TABLE>
      <TABLE width=3D350>
        <TBODY>
        <TR>
          <TD align=3Dmiddle><FONT color=3D#000000 size=3D1><B>All informa=
tion given
            herein is strictly confidential and will not be re-distributed=
 for
            any reason other than for the specific use
            intended.</FONT></B><BR><FONT face=3DArial color=3D#000000 siz=
e=3D1>To be
            removed from our distribution lists, please <A
            href="http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/3D&quot
;mailto:d_lete106@lycos.co.uk?subject=3DRemove_WebC&quot;">Cl=
ick
            here.<FONT color=3D#666600></A></FONT>.</FONT></TD></TR></TBOD=
Y></TABLE></P>
      <CENTER></CENTER></FONT></FONT></TR></TBODY></TABLE></CENTER></FONT>=
</BODY></HTML>
```

# August 2002

Original source file: ss.0208
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/ss.0208

## 1. Qualified Potential Clients for your industry

From: "E-Business Services" <Ben.w@egnatia.ee.auth.gr>
Date: Tue, 06 Aug 2002 17:28:30 -1900
To: <Ben.w@egnatia.ee.auth.gr>
Message-ID: <00002f71027c$000022e5$000060ae@>
Rendered body type: text/html

Online Marketing Strategies

Need More Clients?

Increase Your Sales 15%-40% Every Month!

Targeted E-mail Marketing Is A Proven Method For Return Sales

With a database of over 150 million "targeted" addresses, we can reach your potential clients anywhere in the world. Our staff creates interactive ad campaigns, specifically targeted to your client base, and designed to produce staggering responses for your business. A steady lead source can make sure your sales team will consistently close deals.

The Greatest
Return On Your Marketing Dollar

Targeted e-mail marketing is the most effective way to reach
global and local markets with a small expense compared to that of conventional marketing.
Quality work and a dedicated professional staff will ensure your ad campaign to be successful.
Put our educated team of marketers to work for you.

Fill out the form below to speak
with one
of our marketing specialists.

Required Input Field*

Name*

Web
Address

Company
Name*

State*

Business
Phone*

Home
Phone

Email
Address*

Type of
Business

To be removed, please
Click
here. <http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/3D"mailto:d_lete2027@lycos.co.uk?subject=Remove_E-marketin=>.

## 2. Your confirmation is needed (ok 6751)

From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Tue, 13 Aug 2002 18:31:45 -0500
To: lyris.ss@tapr.org
Message-ID: <LYR6751-93856-2002.08.13-18.31.45--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Your email address 'lyris.ss@tapr.org' has been submitted to be
unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be
unsubscribed.

```
To confirm that you do want to unsubscribe, reply to this message so that
the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to
unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the
mailing list.

---

Return-Path: <jzlin@aboutravel.co.za>
Received: from ns1.asd.sch.ae ([195.229.71.66]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Tue, 13 Aug 2002 18:31:42 -0500
Received: from thoth.sbs.de ([200.204.57.199]) by ns1.asd.sch.ae
          (Post.Office MTA v3.5.3 release 223 ID# 589-63919U200L2S100V35)
          with ESMTP id ae; Tue, 13 Aug 2002 07:43:13 +0400
Message-ID: <0000578a7960$000028bf$0000024e@mail.abc-pr.dk>
To: ss-request
From: "US Telecenter" <jzlin@aboutravel.co.za>
Subject:
Date: Mon, 12 Aug 2002 20:44:09 -1900
MIME-Version: 1.0
Content-Type: text/html;
        charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <jzlin@aboutravel.co.za>
Received: from ns1.asd.sch.ae ([195.229.71.66]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Tue, 13 Aug 2002 18:31:42 -0500
Received: from thoth.sbs.de ([200.204.57.199]) by ns1.asd.sch.ae
          (Post.Office MTA v3.5.3 release 223 ID# 589-63919U200L2S100V35)
          with ESMTP id ae; Tue, 13 Aug 2002 07:43:13 +0400
Message-ID: <0000578a7960$000028bf$0000024e@mail.abc-pr.dk>
To: <jzlin@aboutravel.co.za>
From: "US Telecenter" <jzlin@aboutravel.co.za>
Subject: Quality conferencing at a low cost
Date: Mon, 12 Aug 2002 20:44:09 -1900
MIME-Version: 1.0
Content-Type: text/html;
        charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable

<HTML><HEAD><TITLE>Lowest Rate Services</TITLE>
<META http-equiv=3DContent-Type content=3D"text/html; charset=3Dwindows-12=
52">
<META content=3D"MSHTML 5.50.4134.600" name=3DGENERATOR></HEAD>
<BODY vLink=3D#c0c0c0 link=3D#c0c0c0 bgColor=3D#000033 leftMargin=3D0><FON=
T
face=3Darial,helvetica>
<P>
<CENTER>
<TABLE width=3D600 border=3D0>
  <TBODY>
  <TR>
    <TD align=3Dmiddle><B><FONT color=3D#999999 size=3D6>Conferencing Made=
 Easy</FONT><BR>
<FONT color=3D#999999 size=3D5>Only <U>18 Cents</U> Per Minute!</B></FONT>=
</TD></TR></TBODY></TABLE>
<P><FONT color=3D#ff0000 size=3D5><B>(Including Long Distance!)</B></FONT>=

<P>
<TABLE width=3D350 border=3D0>
  <TBODY>
  <TR>
    <TD><FONT color=3D#999999 size=3D3><B>
      <LI>No setup fees
      <LI>No contracts or monthly fees
      <LI>Call anytime, from anywhere, to anywhere
```

```
      <LI>Connects up to 100 Participants
      <LI>Simplicity in set up and administration
      <LI>Operator Help available 24/7 </B></FONT></LI></TD></TR></TBODY><=
/TABLE>
<P>
<TABLE width=3D500 border=3D0>
  <TBODY>
  <TR>
    <TD align=3Dmiddle><FONT color=3D#ff0000 size=3D60><B><FONT size=3D5>T=
he Highest Quality Service For The Lowest Rate In The Industry!</B></FONT>=
</FONT></TD></TR></TBODY></TABLE>
<P>
<TABLE width=3D400 border=3D0>
  <TBODY>
  <TR>
    <TD align=3Dmiddle><FONT color=3D#999999 size=3D4>Fill out the form be=
low to find out how you can lower your phone bill every month.</FONT></TD>=
</TR></TBODY></TABLE>
<P><FONT color=3D#999999 size=3D2>Required Input Field<FONT color=3D#ff000=
0
size=3D2>*</FONT></FONT>
<P>
<TABLE cellSpacing=3D0 borderColorDark=3D#333300 cellPadding=3D3 width=3D6=
00
borderColorLight=3D#ffffcc>
  <TBODY>
  <TR>
    <TD align=3Dmiddle>
      <FORM action=3Dmailto:aud.conf@marketing401.com?subject=3DConference=
_Inquiry
      method=3Dpost encType=3Dtext/plain>
      <TABLE width=3D"100%">
        <TBODY>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#999999
          size=3D2>Name</FONT><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#ff0000
            size=3D2>*</FONT></TD>
          <TD><INPUT name=3DNAME></TD></TR>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#999999 size=3D2=
>Web
            Address</FONT></TD>
          <TD><INPUT value=3Dhttp:// name=3DURL></TD></TR>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#999999 size=3D2=
>Company
            Name</FONT><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#ff0000
            size=3D2>*</FONT></TD>
          <TD><INPUT name=3DCOMPANY_NAME></TD></TR>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#999999 size=3D2=
>
            State</FONT><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#ff0000
            size=3D2>*</FONT></TD>
          <TD><INPUT size=3D2 name=3DSTATE></TD></TR>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#999999 size=3D2=
>Business
            Phone</FONT><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#ff0000
            size=3D2>*</FONT></TD>
          <TD><INPUT name=3DBUS_PHONE></TD></TR>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#999999 size=3D2=
>Home
            Phone</FONT></TD>
          <TD><INPUT name=3DHOME_PHONE></TD></TR>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#999999 size=3D2=
```

```
>Email
            Address</FONT><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#ff0000
            size=3D2>*</FONT></TD>
          <TD><INPUT name=3DEMAIL></TD></TR>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#999999 size=3D2=
>Type of
            Business</FONT></TD>
          <TD><INPUT name=3DTYPE_OF_BUSINESS></TD></TR></TBODY></TABLE>
      <P><INPUT type=3Dsubmit value=3D"Submit Information" name=3Dsubmit>
    </FORM></P></TD></TR></TBODY></TABLE>
<BR><BR>
<TABLE width=3D500>
  <TBODY>
  <TR>
    <TD align=3Dmiddle><FONT face=3D"Arial, Helvetica, sans-serif" color=3D=
#999999
      size=3D1>To be removed from our distribution lists, please
      <FONT color=3D#666666><A href="http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/m
ail_archive/3D&amp;quot;mailto:delete@marketing401.com?subj="
ect=3DRemove_Conferencing">Click
      here</A></FONT>.</FONT></TD></TR></TBODY></TABLE></P></CENTER></BODY=
></HTML>
```

## 3. Eliminate Travel Expenses!

```
From: "Telcom Services" <J.D.ent@deuroconsult.ro>
Date: Tue, 13 Aug 2002 17:12:59 -1900
To: <J.D.ent@deuroconsult.ro>
Message-ID: <00000a031b76$00004032$00001fff@mail-relay.uni2.dk>
Rendered body type: text/html
```

```
Lowest Rate Services

Conferencing Made Easy

Only 18 Cents Per Minute!

(Including Long Distance!)

No setup fees

No contracts or monthly fees

Call anytime, from anywhere, to anywhere

Connects up to 100 Participants

Simplicity in set up and administration

Operator Help available 24/7

The Highest Quality Service For The Lowest Rate In The Industry!

Fill out the form below to find out how you can lower your phone bill every month.

Required Input Field*

Name*

Web
Address

Company
Name*

State*

Business
Phone*

Home
Phone

Email
Address*

Type of
```

Business

To be removed from our distribution lists, please
Click
here <http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/3D"mailto:delete@ma
rketing401.com?subj=>.

## 4. urgent attention needed

From: "Dr. Greg Akann" <dr_greg@africamail.com>
Date: Thu, 15 Aug 2002 17:01:03
To: lyris.ss@tapr.org
Message-ID: <200208151601.LAA20428@tapr.org>
Rendered body type: text/plain

From: Dr. Greg Akann,

Credit Officer

Union bank Of Nigeria PLC

Sir, First, Im soliciting your utmost confidenciality in this
Transaction. I am Dr. Greg Akann, credit officer with Union Bank of
Nigeria PLC, Lagos. I came to you in my private search for a reliable
person to handle this confidential transaction, which involves huge
sum of money to a foreign account.

The Proposition:

A foreigner an American, late Engr. John creek (SNR) who
died on 30th of January 2000 in Kenya airways plane crash, while returning to his country from a
business trip. He Banked
with us at Union Bank of Nigeria plc Lagos and had a
closing balance worth US$35,Million, having heard of the tragic incident involving Engr. John creek
(SNR) the bank now
expects a next of kin as beneficiary. Valuable efforts have been
made by Union Bank to get i! n ! touch with any of his family's but I personally found out that he until
 his death neither had wife nor children that is known to us.

The only name of next of kin given to us by late John Creek unfortunately was with him in the same
flight that crashed, and this is unknown to the bank. Im taking this advantage in order to better my
life and that of my family, I now decided to seek your permission to have you stand as next of kin to
late Engr.John Creek, so that the fund (US$35M) will
be released in to your account as the next of kin.

All documents and proves to enable you get this fund
will be carefully worked out, by the lawyer that I will employ to work with me down here on your behalf.

I am assuring you that this transaction and its procedures is 100% legal and risk free involvement.
Your share stays while the rest will before myself.

As soon as I receive an acknowledge of the receipt of this message in
Acceptance, I will immediate! ly! start up with the process.
If this proposal is acceptable by you, kindly get to me on
dr_greg@africamail.com.
I want you to also furnish me with your private telephone/fax or preferably your mobile numbers and I
will have to apply for the release and subsequent Transfer of the fund in your favor.
Thank you in advance for your anticipated cooperation.

Yours faithfully,

Dr. Greg Akann

(Credit Officer, Union bank Of Nigeria PLC)

## 5. Your confirmation is needed (ok 6751)

From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Wed, 21 Aug 2002 10:42:34 -0500
To: lyris.ss@tapr.org
Message-ID: <LYR6751-94968-2002.08.21-10.42.34--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Your email address 'lyris.ss@tapr.org' has been submitted to be
unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be
unsubscribed.

To confirm that you do want to unsubscribe, reply to this message so that
the words "ok 6751" appear somewhere on the subject line.

```
Make sure that your reply message is addressed to
unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the
mailing list.

---

Return-Path: <ginsengremove@163.com>
Received: from localhost.com ([218.0.72.192]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Wed, 21 Aug 2002 10:42:32 -0500
From: ginsengremove@163.com
Reply-To: ginsengremove@163.com
To: ss-request
Date: Wed, 21 Aug 2002 22:57:35 +0800
Subject:
X-Mailer: QuickSender 1.05
MIME-Version: 1.0
Content-Type: text/html; charset="us-ascii"
Content-Transfer-Encoding: quoted-printable

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <ginsengremove@163.com>
Received: from localhost.com ([218.0.72.192]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Wed, 21 Aug 2002 10:42:32 -0500
From: ginsengremove@163.com
Reply-To: ginsengremove@163.com
To: leave-ss-6751t@lists.tapr.org
Date: Wed, 21 Aug 2002 22:57:35 +0800
Subject: Ginseng  Tea
X-Mailer: QuickSender 1.05
MIME-Version: 1.0
Content-Type: text/html; charset="us-ascii"
Content-Transfer-Encoding: quoted-printable

=3CBODY bgColor=3D#ffffff=3E
=3CDIV=3E=3CIMG align=3Dbaseline alt=3D=22=22 border=3D0 hspace=3D0
src=3D=22http=3A=2F=2Fwww=2Eginseng-tea=2Ecom=2F05bd3b30=2Epng=22=3E=3CFONT size=3D2=3E =3B=3CFONT
size=3D4=3E=3CSTRONG=3E =3B =3B =3B =3C=2FSTRONG=3E=3CSTRONG=3E=3C=2FFONT=3E=3CFONT
size=3D4=3E=3CFONT
face=3D=22Arial Black=22=3EGINSENG-TEA=3CBR=3E =3B=3CA
href=3D=22http=3A=2F=2Fwww=2Eginseng-tea=2Ecom=22=3Ehttp=3A=2F=2Fwww=2Eginseng-tea=2Ecom=3C=2FA=3E=3CBR=
3E =3B=3CA
href=3D=22http=3A=2F=2Fginseng-tea=2Ehypermart=2Enet=22=3Ehttp=3A=2F=2Fginseng-tea=2Ehypermart=2Enet=3C=
2FA=3E=3C=2FFONT=3E=3CBR=3E =3B=3CBR=3E =3B=3CBR=3E =3B
=3C=2FFONT=3E=3C=2FSTRONG=3EWant to feel energetic and youthful=3F Drink ginseng tea! Want to
improve =3B=3CBR=3E =3B =3Byour blood sugar level=2C mental status=2C cholesterol
level and blood =3B=3CBR=3E =3B =3Bpressure=3F Drink ginseng tea! Just want to
feel better=3F Drink ginseng tea!=3CBR=3E =3B=3CBR=3E =3B Package=3A 100 bags per box
=28paper or wooden=29=2E =3B 0=2E07oz =282g=29 x 100bags=2Fpaper =3B=3CBR=3E =3B =3Bbox
or
0=2E105oz =283g=29 X 100bags=2Fwooden box=2E For more information=2C see the =3B=3CBR=3E =3B
site of =3CA
href=3D=22http=3A=2F=2Fwww=2Eginseng-tea=2Ecom=22=3Ehttp=3A=2F=2Fwww=2Eginseng-tea=2Ecom=3C=2FA=3E or
=3CA href=3D=22http=3A=2F=2Fginseng-tea=2Ehypermat=2Enet=22=3Ehttp=3A=2F=2Fginseng-tea=2Ehypermat=2Enet=
3C=2FA=3E
=2E=3CBR=3E =3B Disclaimer=3A The presentation here is for informational only and is
not =3B=3CBR=3E =3B =3Bmeant to substitute for the advice from your physician
or health care =3B=3CBR=3E =3B =3Bprofessional=2E =3B Since it=A1=AFs not been
evaluated by FDA=2C it is not intended to =3B=3CBR=3E =3B =3Bdiagnose=2C treat=2C
cure=2C or prevent any disease=2E=3CBR=3E =3B Order=3A DON=A1=AFT REPLY TO THIS E-MAIL
DIRECTLY=2E To order=2C simply complete the =3B=3CBR=3E =3B =3Border form below
and fax it back to 772-673-7969=2E Make sure to give
your =3B=3CBR=3E =3B =3Bemail address so that we can send you a receipt=2E We
prefer the payment by =3B=3CBR=3E =3B =3BPaypal=2C ID is =3CA
href=3D=22mailto=3Afreshmeadow=40etang=2Ecom=22=3Efreshmeadow=40etang=2Ecom=3C=2FA=3E=2E If ordering
more
than one box=2C =3B=3CBR=3E =3B =3Bplease fax your request for pricing &amp=3B
shipping=2E For more information=2C =3B=3CBR=3E =3B =3Bplease refer to =3CA
href=3D=22http=3A=2F=2Fwww=2Eginseng-tea=2Ecom=22=3Ewww=2Eginseng-tea=2Ecom=3C=2FA=3E or =3CA
```

```
href=3D=22http=3A=2F=2Fginseng-tea=2Ehypermart=2Enet=22=3Ehttp=3A=2F=2Fginseng-tea=2Ehypermart=2Enet=3C=
2FA=3E
=2E=3CBR=3E =3B=3CBR=3E =3B ORDER FORM=3CBR=3E =3B Full
Name=3A=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F Email
Address=3A=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=3CBR=3E =3B
Tel=3A=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5FFax=3A=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5
F=5F=5F=5F=3CBR=3E =3B Shipping
Address=3A=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F
City=3A=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F =3B=3CBR=3E =3B =3BState=2FProvince=3A=
5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5FZIP=2FPostal=3A=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F
Country=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=3CBR=3E =3B=3CBR=3E =3B PRICE=3A =5B=5D
0=2E07ozx100bags=2Fpaper box
$25=2E95 =5B=5D 0=2E105ozx100bags=2Fwooden box
$ =3B=3CBR=3E =3B =3B31=2E95=3CBR=3E =3B=3CBR=3E =3B SHIPPING OPTIONS=3A =5B=5D
Priority
Mail =281-2 weeks=29$6 =5B=5D Express Mail $15=3CBR=3E =3B TOTAL
AMOUNT=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=5F=3CBR=3E =3B=3CBR=3E =3B S &amp=3B
H=3A Shipping to PO Box will
be delivered by U=2ES=2E mail only=2E For int=A1=AFl =3B=3CBR=3E =3B =3Borders=2C please
fax request to 1-772-673-7969=2E For California residents=2C
the =3B=3CBR=3E =3B =3Bsales tax of 8=2E25% applies=2E All duties and taxes for
international orders =3B=3CBR=3E =3B =3Bare the responsibilities of
recipients=2E For more information=2C please refer =3B=3CBR=3E =3B =3Bto =3CA
href=3D=22http=3A=2F=2Fwww=2Eginseng-tea=2Ecom=22=3Ewww=2Eginseng-tea=2Ecom=3C=2FA=3E or =3CA
href=3D=22http=3A=2F=2Fginseng-tea=2Ehypermart=2Enet=22=3Ehttp=3A=2F=2Fginseng-tea=2Ehypermart=2Enet=3C=
2FA=3E
=2E=3CBR=3E =3B=3CBR=3E =3B This message is sent in compliance of the new e-mail bill=2C
SECTION 301=2C =3B=3CBR=3E =3B =3Bparagraph =28a=29=282=29=28c=29 of S=2E1618=2E To be
removed=2C
please =3CA href=3D=22mailto=3Aginsengtea=40etang=2Ecom=22=3Emailto=3Aginsengtea=40etang=2Ecom=3C=2FA=3E

with =3B=3CBR=3E =3B =3B=22remove=22 in subject
line=2E=3CBR=3E =3B=3CBR=3E =3B =3B=3CBR=3E=3C=2FFONT=3E=3C=2FDIV=3E
=3CDIV=3E=3CFONT size=3D2=3E=3C=2FFONT=3E =3B=3C=2FDIV=3E
=3CDIV=3E=3CFONT size=3D2=3E=3C=2FFONT=3E =3B=3C=2FDIV=3E
=3CDIV=3E=3CFONT size=3D2=3E =3B=3C=2FDIV=3E=3C=2FFONT=3E=3C=2FBODY=3E
```

# September 2002

Original source file: ss.0209
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/ss.0209

## 1. Your confirmation is needed (ok 6751)

From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Mon, 02 Sep 2002 18:53:22 -0500
To: lyris.ss@tapr.org
Message-ID: <LYR6751-96991-2002.09.02-18.53.22--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

```
Your email address 'lyris.ss@tapr.org' has been submitted to be
unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be
unsubscribed.

To confirm that you do want to unsubscribe, reply to this message so that
the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to
unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the
mailing list.

---

Return-Path: <call_for_papers@wses.org>
Received: from ux.snd.edu.gr ([194.219.139.5]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Mon, 02 Sep 2002 18:53:05 -0500
Received: from mailserver.mail.gr ([193.41.150.37])
        by ux.snd.edu.gr (8.9.3/8.9.3) with SMTP id NAA25910
        for <kostas_papa@ux.snd.edu.gr>; Sat, 3 Aug 2002 13:38:38 +0300
Received: from mailserver.mail.gr ([127.0.0.1]) by mailserver.mail.gr ; Sat, 03 Aug 2002 13:36:29 +0300
From: call_for_papers@wses.org
Content-Type: text/plain
Content-Disposition: inline
Content-Transfer-Encoding: binary
X-Mailer: EMUmail 5.1
X-Originating-Ip: 195.167.121.67
Priority: 3 (Normal)
X-Webmail-User: wseas@mail.gr
To: ss-request
X-Priority: 3 (Normal)
MIME-Version: 1.0
X-Http_host: www.mail.gr
Subject:
Date: Sat, 03 Aug 2002 13:36:29 EEST
Reply-To: call_for_papers@wses.org
X-Rcpt-To: <kostas_papa@ux.snd.edu.gr>
Message-ID: <102837098901@mailserver.mail.gr>

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <call_for_papers@wses.org>
Received: from ux.snd.edu.gr ([194.219.139.5]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Mon, 02 Sep 2002 18:53:05 -0500
Received: from mailserver.mail.gr ([193.41.150.37])
        by ux.snd.edu.gr (8.9.3/8.9.3) with SMTP id NAA25910
        for <kostas_papa@ux.snd.edu.gr>; Sat, 3 Aug 2002 13:38:38 +0300
From: call_for_papers@wses.org
Received: from mailserver.mail.gr ([127.0.0.1]) by mailserver.mail.gr ; Sat, 03 Aug 2002 13:36:29 +0300
Content-Type: text/plain
Content-Disposition: inline
Content-Transfer-Encoding: binary
X-Mailer: EMUmail 5.1
X-Originating-Ip: 195.167.121.67
Priority: 3 (Normal)
X-Webmail-User: wseas@mail.gr
```

To: call_for_papers@wses.org
X-Priority: 3 (Normal)
MIME-Version: 1.0
X-Http_host: www.mail.gr
Subject: Conferences in Rhodes Island, GREECE
Date: Sat, 03 Aug 2002 13:36:29 EEST
Reply-To: call_for_papers@wses.org
X-Rcpt-To: <kostas_papa@ux.snd.edu.gr>
Message-ID: <102837098901@mailserver.mail.gr>

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ARTIFICIAL VISION (ISCGAV'03)
http://www.wseas.org/conferences/2003/signal

3rd WSEAS Int. Conf. on SYSTEMS THEORY AND SCIENTIFIC COMPUTATION
(ISTASC'03) (former: Scientific Computation and Soft Computing)
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RHODES Island, Greece, July 28-30, 2003

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Archipelago in the Mediterranean Sea, where Europe
meets the Orient and is the third largest of the Greek
islands. Combining Europe with Orient and nearly the whole
year favored by the God of Sun "Helios", it is a real experience
to discover. The old Town of Rhodes is the largest inhabited walled
medieval city in Europe and included in UNESCO's list of World Heritage Sites.
It is called island of Sun, (the most sunniest place in Europe).
It is called island of Knights, (see the History of the Island below).
It is called island of Roses ("rhode" means rose in greek).
It is called island of Butterflies (because of the famous - unique in the
world - valley of butterflies).
It is called island of the seven springs (because of the famous valley of
the seven springs).

Best Regards

K.Papanikolaou

---
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## 2. Why Consolidate when you can Eliminate!

From: "Jessica P." <Contractor@ams.poltava.ua>
Date: Thu, 05 Sep 2002 23:59:29 -1900
To: <Contractor@ams.poltava.ua>
Message-ID: <00000a5a2e7c$00000369$000032df@alphaconsulting.ie>
Rendered body type: text/html

click here
<http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/3D"mailto:dele=> to end
creditor harrassment

Instantly Reduce Debt by 60% or More <http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/
mail_archive/3D"http://www.marketing401.com/debt_fix">

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il_archive/3D"http://www.marketing401.com/debt_fix">

It's strictly private and 100% confidential.
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## 3. [ss] Re: 802.11b and ham radio

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Fri, 6 Sep 2002 10:04:39 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-97446-2002.09.06-10.45.56--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>Howdy:
>
> Wouldn't it be great if there was a firmware flash that
>would set several (11 or more) channels inside 2390 - 2450 MHz.
>Or, at least, redefining channels 7 - 11 inside 2390-2350 MHz.
>Assuming that, some day, somewhere, interference will exist
>with part 15 users.
>
>Chuck nc8q

Sure would be.  In theory someone with enough knowledge could
come up with something like this as all 802.11b devices use the
same Prism or Hermes chipset. What would be even better is if
the manufacures offered this 'firmware flash' to hams who
requested it.  A few manufactures do this to some extent but
worry about their Part 15 certification.  But maybe if a group
like TAPR talked to these manufactures this 'firmware' flash
could happen?

Problem is 2400-2450 is shared with Part 15.  2390-2400 isn't
enough for even one DSSS channel as they are ~22 MHz wide.  In
theory if you opperate under Part 97 you are given some
protection from all the other wireless stuff that is classified
as Part 15.  See and old message of mine:
http://www.qsl.net/kb9mwr/projects/wireless/confused.txt
But then again under Part 97 you allowed more radiated power,
so you might be able to overcome this interference.

Overview:

http://www.qsl.net/kb9mwr/projects/wireless/plan.html
http://www.qsl.net/kb9mwr/projects/wireless/Ham_Ethernet_GBPPR.pdf

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 4. [ss] Re: 802.11b and ham radio

From: dubose@texas.net
Date: Fri, 6 Sep 2002 15:00:54 US/Central
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-97464-2002.09.06-15.41.41--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> >Howdy:
> >
> > Wouldn't it be great if there was a firmware flash that
> >would set several (11 or more) channels inside 2390 - 2450 MHz.
> >Or, at least, redefining channels 7 - 11 inside 2390-2350 MHz.
> >Assuming that, some day, somewhere, interference will exist
> >with part 15 users.
> >
> >Chuck nc8q
>
> Sure would be.  In theory someone with enough knowledge could
> come up with something like this as all 802.11b devices use the
> same Prism or Hermes chipset. What would be even better is if
> the manufacures offered this 'firmware flash' to hams who
> requested it.  A few manufactures do this to some extent but
> worry about their Part 15 certification.  But maybe if a group
> like TAPR talked to these manufactures this 'firmware' flash
> could happen?
>
> Problem is 2400-2450 is shared with Part 15.  2390-2400 isn't
> enough for even one DSSS channel as they are ~22 MHz wide.  In
> theory if you opperate under Part 97 you are given some
> protection from all the other wireless stuff that is classified
> as Part 15.  See and old message of mine:
> http://www.qsl.net/kb9mwr/projects/wireless/confused.txt
> But then again under Part 97 you allowed more radiated power,
> so you might be able to overcome this interference.
>
> Overview:
> http://www.qsl.net/kb9mwr/projects/wireless/plan.html
> http://www.qsl.net/kb9mwr/projects/wireless/Ham_Ethernet_GBPPR.pdf
>

Would it be possible to use 2390-2450?

I know that the military is getting vendor's to modify some COTS IEEE 802.11
hardware for the frequencies they wnat to use and would assume that they could
do the same for hams.  Additionally, they are upping the power above the
unlicensed limit.

I have seen some articles in newsletters that show how to build amplifiers that
boost the Part 97 hardware up to a couple of watts. That and gain antennas at
2.4 GHz is "powerful"...maybe even dangerous if you don't take some simple
precautions.

The Digital Data Conf.next weekend may address some of these issues.

Walt/K5YFW

---
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## 5. [ss] Re: 802.11b and ham radio

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Sat, 7 Sep 2002 10:56:18 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-97561-2002.09.07-11.37.05--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>Would it be possible to use 2390-2450?
>I know that the military is getting vendor's to modify some COTS IEEE
>802.11
>hardware for the frequencies they wnat to use and would assume that they
>could
>do the same for hams. Additionally, they are upping the power above the
>unlicensed limit.
>I have seen some articles in newsletters that show how to build
>amplifiers that
>boost the Part 97 hardware up to a couple of watts. That and gain
>antennas at
>2.4 GHz is "powerful"...maybe even dangerous if you don't take some
>simple
>precautions.
>The Digital Data Conf.next weekend may address some of these issues.
>Walt/K5YFW

It's possible for users to easily configure the 802.11 cards to use
channels within the 2400-2450 overlap. See:
http://www.qsl.net/kb9mwr/projects/wireless/allocations.html

What alot of hams would like to see more is the devices opperating
on ham band space not shared with Part 15, like 2390-2400 MHz.

Anymore information you can pass along about the Military's use
of the COTS devices would be appreciated.  I'm half tempted to put
a post on one of the commercial list just to see how many vendors
/ manufactures would be willing to do something like this.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
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## 6. [ss] point to point? <LYR29542-97561-2002.09.07-11.37.05--w3sz#comcast.net@lists.tapr.org>

From: W3SZ <w3sz@comcast.net>
Date: Sat, 07 Sep 2002 12:54:00 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-97563-2002.09.07-12.35.30--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello, all!

I want to set up a control connection for a remote site, and have been
reading that the 802.11b is an inefficient way to do point to point.  These
writers say it is really for multipoint systems.

Could someone help me to learn what point to point protocols are out there,
and where I might start looking for hardware etc to implement?

I would assume that I would be using 2.4G or 5G or higher for the link.

What I need is just a high speed wireless link between 2 computers, both
running Linux, and I need a data rate of more than 7 MB/sec.  I ran my
remote applications over the hardwired network here and that is what it the
data transfer rates were.  10 MBs would likely be better.  What am I doing?
96 KHz-wide "audio" stream at 24 bits from a homebrew dsp-based receiver
that I want to put at a remote site.  Then add control links, etc.

If you could point me in the right direction re: websites, etc to read I'd
be most appreciative.  I know about C-spec OverLan that goes up to 100 MBps
at distance of up to 7 miles when operating at +1 dBm out, and so I would
think that by cranking that up I could get out to the 15-18 miles I need.
But I suspect this hardware might be cost prohibitive, and would like to
hear what you experts have to say...

Thanks in advance, and

73,

Roger Rehr
W3SZ   FN20ah
2 Merrymount Road
Reading, PA  19609-1718
http://www.qsl.net/w3sz

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 7. [ss] Re: 802.11b and ham radio

From: Walt DuBose <dubose@texas.net>
Date: Sat, 07 Sep 2002 13:08:52 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-97569-2002.09.07-13.48.32--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve Lampereur wrote:
>
> >Would it be possible to use 2390-2450?
> >I know that the military is getting vendor's to modify some COTS IEEE
> >802.11
> >hardware for the frequencies they wnat to use and would assume that they
> >could
> >do the same for hams. Additionally, they are upping the power above the
> >unlicensed limit.
> >I have seen some articles in newsletters that show how to build
> >amplifiers that
> >boost the Part 97 hardware up to a couple of watts. That and gain
> >antennas at
> >2.4 GHz is "powerful"...maybe even dangerous if you don't take some
> >simple
> >precautions.
> >The Digital Data Conf.next weekend may address some of these issues.
> >Walt/K5YFW
>
> It's possible for users to easily configure the 802.11 cards to use
> channels within the 2400-2450 overlap. See:
> http://www.qsl.net/kb9mwr/projects/wireless/allocations.html
>
> What alot of hams would like to see more is the devices opperating
> on ham band space not shared with Part 15, like 2390-2400 MHz.
>
> Anymore information you can pass along about the Military's use
> of the COTS devices would be appreciated.  I'm half tempted to put
> a post on one of the commercial list just to see how many vendors
> / manufactures would be willing to do something like this.
>

I haven't "bought" anything for the government in this area since 1999;
however,
I read in the Government Computer News and Federal Computer Week that
the Navy
and Army are currently buying "modified" COTS.  The Navy is going to use
them
shipboard and the Army is going to use them in a battlefield situation.
The
Army is using them on one of the unrouted IP domains. While the Navy (I
believe...
I'm not sure) is using MilNet assigned IP addresses.

I think a posted "query" to find out who the sources are is a great
idea.  I
really think that MFJ and others might have the vendors "make" a unit
for
their market.

Let me address frequencies.  I would like to see the frequency spread
different
enough that Part 15, etc. hardware would not be usable on the ham
frequencies.
And of course the max. power output that the unit is capable of.

Now let me say a word about antennas.  The antennas used on most, if not
all,
of the unlicensed 802.11 devices in omin-directional with a pattern much
like
a 1/4 wave ground plane...more or less a balloon pattern.  Some folks in
San
Diego flew over the city with a Wi-Fi laptop and picked up thousands of
"nodes"
all mixing together above the city.  Hams should use antennas that give
a more

of a donut pattern which would of course be a "gain" antenna.  So I
think that
even running the same power as the unlicensed hardware, we would get
better
range...but again I would hope that we could get  more power output and
also
use amplifiers.

Walt/K5YFW

IEEE 802.11, Where Hams Want To Go.

---
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## 8. [ss] Re: point to point? <LYR29542-97561-2002.09.07-11.37.05--w3sz#comcast.net@lists.tapr.org>

From: Jeff King <jeff@aerodata.net>
Date: Sat, 7 Sep 2002 14:34:00 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-97573-2002.09.07-14.13.08--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Sat, 07 Sep 2002 12:54:00 -0400, W3SZ wrote:

>I want to set up a control connection for a remote site, and have
>been
>reading that the 802.11b is an inefficient way to do point to point.
>These writers say it is really for multipoint systems.

It is really designed for office Lan's. It is LEAST suited for a outdoor wide
area multipoint system so these writer's must have some other agenda. In the
WISP arena, a company by the name of KarlNet sells firmware upgrades for the
Orinico (and I believe other) 802.11b cards to implement a form of polling
into them. 802.11b can suffer from "hidden terminals" just like conventional
packet radio can.

A point to point 802.11b link should work just fine with the proper
engineering.

>What I need is just a high speed wireless link between 2 computers,
>both running Linux, and I need a data rate of more than 7 MB/sec.

I don't think 802.11b could sustain this throughput. Try it with two cards in
the same room... that will be the best it gets. If you don't like that, then
it is a no go.

You might look at 802.11a, which is 5 ghz and I think gives around 54megabits
second over the air. Never worked with it so your on your own here.

But with 15-18 miles, I think you'll need a pre-engineered solution (since it
sounds like what you are doing is not amateur radio) and as such, it will be
costly.

-Jeff

---
You are currently subscribed to ss as: lyris.ss@tapr.org
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## 9. [ss] Re: point to point? <LYR29542-97573-2002.09.07-14.13.08--w3sz#comcast.net@lists.tapr.org>

From: W3SZ <w3sz@comcast.net>
Date: Sat, 07 Sep 2002 15:29:37 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-97577-2002.09.07-15.10.25--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi, Jeff!

Thanks for the answer!  It was very helpful!

I need to make a MAJOR point though:

What I am doing is DEFINITELY amateur radio!  I am interested in remoting an 144 MHZ Homebrew DSP-Based receiver...Linrad (Linux-PC Radio)...which I've been using successfully for what is now approaching 2 years.  Leif Asbrink SM5BSZ has written the software.  He's on the software-defined-radio committee.  I've been using the software with a homebrewed RF front end for nearly 2 years.  Now I want to remote it.

I view/record a 90 KHz +/- slice of spectrum at a time, and input it into a 24 bit soundcard.  Its been up and running and in use as  my primary EME receiver here for about a year...after about a year of initial debugging, etc...but now want to operate from a remote site.  If you're interested in this see http://www.qsl.net/w3sz/linrademe2001.htm or http://www.qsl.net/w3sz/start.htm .  If not, ignore the URLs ;)

In the remote application I will send the datastream from the remote site to the central site for viewing and reception.

I hadn't looked at 802.11a but I will now, per your suggestions..54 Mbps should do.

73,

Roger Rehr
W3SZ   FN20ah
2 Merrymount Road
Reading, PA  19609-1718
http://www.qsl.net/w3sz

---
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## 10. [ss] High power 802.11

From: Frosty6981@aol.com
Date: Sat, 7 Sep 2002 17:45:14 EDT
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-97588-2002.09.07-17.26.09--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Is there a way to run high power 802.11?  I was thinking about 5-10 watts, and some way inserting a call sign in to the data stream.  Does anyone know of anything like this?  Is there already software that will insert a call in to the data stream?

73, Reid KCØIDI

## 11. [ss] Re: High power 802.11

From: Walt DuBose <dubose@texas.net>
Date: Sun, 08 Sep 2002 19:01:26 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: jreigel@swbell.net
Message-ID: <LYR6751-97723-2002.09.08-19.41.15--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Frosty6981@aol.com wrote:
>
> Is there a way to run high power 802.11?  I was thinking about
> 5-10 watts, and some way inserting a call sign in to the data
> stream.  Does anyone know of anything like this?  Is there
> already software that will insert a call in to the data stream?
>
> 73, Reid KCØIDI

Reid,

I am not aware of anyone with that capability right how.
However, there is a ham with the Central Ohio Linux Users Group
that has a schematic for a 1 watt amplifier.

This is one of the things that I would like to see get going.  A
network node/gateway (to the Internet) running 5-10 watts ERP
omin-directional up high like a repeater would be the start of a
wonderful network.

Walt/K5YFW

---
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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 12. [ss] Re: High power 802.11

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Mon, 9 Sep 2002 10:22:51 +1000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-97731-2002.09.08-20.03.52--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> I am not aware of anyone with that capability right how.
> However, there is a ham with the Central Ohio Linux Users Group
> that has a schematic for a 1 watt amplifier.

I would be interested in this, particularly to see how T/R switching was implemented. On a similar note, what's the feasibility of transverting 802.11b to another band?

> This is one of the things that I would like to see get going. A
> network node/gateway (to the Internet) running 5-10 watts ERP
> omin-directional up high like a repeater would be the start of a
> wonderful network.

These ERP levels are already possible for directional links, but an omni does need extra RF power.

It's rather coincidental that this thread popped up at a time a local ham here asked me about 802.11b for hams...

Tony, VK3JED

---
Outgoing mail ihas been scanned for Viruses
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.381 / Virus Database: 214 - Release Date: 2/08/2002

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## 13. [ss] Re: High power 802.11

From: Frosty6981@aol.com
Date: Sun, 8 Sep 2002 21:25:51 EDT
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-97735-2002.09.08-21.06.47--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thanks Walt, I assume there is no call sign add in software, but if there is any one with the knowledge to design some it would be appreciated. Also what is the legal power limit for the unlicensed service?

73, Reid KCØIDI

## 14. [ss] Re: High power 802.11

From: Walt DuBose <dubose@texas.net>
Date: Sun, 08 Sep 2002 23:14:49 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-97753-2002.09.08-23.54.28--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Frosty6981@aol.com wrote:
>
> Thanks Walt, I assume there is no call sign add in software,
> but if there is any one with the knowledge to design some it
> would be appreciated. Also what is the legal power limit for
> the unlicensed service?

>
> 73, Reid KCØIDI

I think Proxima(?) will embed you call sign in the firmware.
I know that you can easily modify Linux drivers to add your
callsign in the packets.  Again, the fellow from the Central Ohio
LUG has URLs that tell you how to do it.

My guess is its is a "radiation" level put don't know what it is.
And, I know that others on this list DO know.

Walt/K5YFW

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 15. [ss] Re: High power 802.11

From: "Clay Bartholow" <w0led@arrl.net>
Date: Mon, 9 Sep 2002 6:30:39
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-97784-2002.09.09-07.11.35--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

97.311(d): The transmitter power must not exceed 100 W under any
circumstances.  If more than 1 W is used, automatic transmitter control
shall limit output power to that which is required for the communication.
This shall be determined by the use of the ratio, measured at the receiver,
of the received energy per user data bit (Eb) to the sum of the received
power spectral densities of noise (N0) and co-channel interference (I0).
Average transmitter power over 1 W shall be automatically adjusted to
maintain an Eb/(N0 + I0) ratio of no more than23 dB at the intended
receiver.

You might want to verify that I didn't make a typo...

Power is not the problem, in my mind, but rather the automatic power
control (above 1 W).  Since this is dependent upon the conditions at the
receiver (not at the transmitter) this suggests some type of feedback from
receiver to transmitter (unless there is some way to correlate retries to
the ratio described in Part 97).  I'm just thinking out loud a little here.
 But this seems like the "sticky wicket" in my mind to the use of
reasonable power for omnidirectional communications using 802.11b (or any
other form of SS under Part 97).

---
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## 16. [ss] Re: High power 802.11

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Mon, 9 Sep 2002 10:00:33 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-97813-2002.09.09-10.41.29--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

There are a number of ways to embed your callsign within the ethernet
datagram, you could embed it in the MAC or in a ping for example.
(http://www.qsl.net/kb9mwr/projects/wireless/pingid.html)

Yes homebrew amps are possible.
(http://www.qsl.net/n9zia/wireless/appendixB.html) Bus as someone pointed
out 1 Watt PEP is the max unless you can incorporate "Automatic Transmitter
Power Control"

Part 97 versus Part 15 and Permissible Power Comparison:
http://www.qsl.net/kb9mwr/projects/wireless/pwr.html

Ham Ethernet Using Part 15 Wireless Etherenet Devices Under Part 97:
http://www.qsl.net/kb9mwr/projects/wireless/plan.html
http://www.qsl.net/kb9mwr/projects/wireless/Ham_Ethernet_GBPPR.pdf

---
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## 17. [ss] Re: High power 802.11

From: dubose@texas.net
Date: Mon, 9 Sep 2002 10:32:22 US/Central
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-97814-2002.09.09-11.13.14--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Yes homebrew amps are possible.
> (http://www.qsl.net/n9zia/wireless/appendixB.html) Bus as someone pointed
> out 1 Watt PEP is the max unless you can incorporate "Automatic Transmitter
> Power Control"
>
I tthink that we can push the FCC to move that up 6 db (4 watts) if the
League will support that.

Everyone needs to bookmark the URLs that Steve sent along.

Walt/K5YFW

---
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## 18. [ss] Re: High power 802.11

From: Jeff King <jeff@aerodata.net>
Date: Mon, 09 Sep 2002 10:44:27 -0500 (CDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-97815-2002.09.09-11.25.23--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Quoting dubose@texas.net:

>
> > Yes homebrew amps are possible.

>  I tthink that we can push the FCC to move that up 6 db (4 watts) if
> the League will support that.

Why can't spread spectrum be on equal parity with the rest of amateur radio?

I mean, you'd have a better case for the legal need for automatic power control on a 20 meter HF pileup. Amateur radio operators already are legally required to use the minimum power required for communication and not a single instances was cited of a spread spectrum operator running excessive power for the communication at had. However, such cannot be said for VHF/HF contest operation. Yet these modes which are commonly abused have no need for automatic power control.

The issue is NOT the FCC. The issue is our fellow amateur radio operators technical racisim and fear of spread spectrum. Read the comments in the rule making.

-Jeff

---
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## 19. [ss] Re: High power 802.11

From: "Clay Bartholow" <w0led@arrl.net>
Date: Mon, 9 Sep 2002 11:36:7
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-97820-2002.09.09-12.17.00--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve et al,

Good discussion...

Your reference:

Part 97 versus Part 15 and Permissible Power Comparison:
http://www.qsl.net/kb9mwr/projects/wireless/pwr.html

  -- Only applies to Pout up to 1 W and the relative Pout (EIRP)

possibilities under Part 15 vs. Part 97 at these levels

Your reference:

Yes homebrew amps are possible.  (http://www.qsl.net/n9zia/wireless/appendixB.html)

  -- As the author noted in this article (Appendix B):

     -- One watt into a 24 dB directional antenna has an effective
        radiated power of over 250 watts.
     -- Don't point the antenna at your sisters.

I suspect that 100 W PEP levels are a ways out and certainly have some significant radiation hazard concerns.

At the 2 to 5 W levels, which should be reasonably possible using current technologies available to experimenters, I think:

  -- The big problem will be the Automatic Power Control.  Under current
     Part 97 rules this will be the biggest technical sticking point for
     experimenters.
     (Sure, you can debate the rationale employed by the FCC and
     commenters in coming up with this requirement, it's still the rule
     as it currently stands.  Change the FCCs mind if you wish -- I'd
     rather take on the technical challenges.)
     There are, I believe, some commercial amplifiers available with APC
     but I'm not sure they implement the Eb/(N0+I0) control referenced in
     97.311(d) and, being commercial, I suspect they may be expensive.
     Has anyone done some thinking along these lines?  I wonder if anyone
     at DCC will be discussing this and potential solutions...

  -- The radiation hazards are still problematic (especially for those
     who don't keep their heads screwed on straight during testing and
     installation).

73,
Clay Bartholow
W0LED

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## 20. [ss] Re: High power 802.11

From: Hunter Harris <huntharris@attbi.com>
Date: Mon, 09 Sep 2002 14:09:29 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-97833-2002.09.09-13.44.45--lyris.ss#tapr.org@lists.tapr.org>
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I have been reading the mail on this power issue because I have a spread spectrum background but am not active in any such Ham effort at the moment.

Power control is an imperative because the Cross Correlation function sidelobes (nominally 30 to 50 db down) are the only control over mutual interference.  Even with good sidelobes, a nearby station will generally blank a distant transmission  because of the propagation loss.  This is because everyone shares a common band. Early military systems had to learn this lesson the hard way. At VHF/UHF where everyone more or less hears everyone else, this is more controllable. At HF frequencies with the vagaries of the ionosphere even power control is not always successful.  This is why the military will often prefer frequent hopping even though it does not have as much process gain.

Hunter Harris W1SI

Jeff King wrote:
>
> Quoting dubose@texas.net:
>
> >
> > > Yes homebrew amps are possible.
>
> >    I tthink that we can push the FCC to move that up 6 db (4 watts) if
> > the League will support that.
>
> Why can't spread spectrum be on equal parity with the rest of amateur radio?

> I mean, you'd have a better case for the legal need for automatic power control
> on a 20 meter HF pileup. Amateur radio operators already are legally required
> to use the minimum power required for communication and not a single instances
> was cited of a spread spectrum operator running excessive power for the
> communication at had. However, such cannot be said for VHF/HF contest
> operation. Yet these modes which are commonly abused have no need for automatic
> power control.
>
> The issue is NOT the FCC. The issue is our fellow amateur radio operators
> technical racisim and fear of spread spectrum. Read the comments in the rule
> making.
>
> -Jeff
>
> ---
> You are currently subscribed to ss as: huntharris@attbi.com
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## 21. [ss] Re: High power 802.11

From: Jeff King <jeff@aerodata.net>
Date: Mon, 09 Sep 2002 13:15:56 -0500 (CDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-97835-2002.09.09-13.56.51--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Quoting Hunter Harris <huntharris@attbi.com>:

> I have been reading the mail on this power issue because I have a
> spread
> spectrum background but am not active in any such Ham effort at the
> moment.
>
> Power control is an imperative

Understood why it is there, and how it is useful,  but it is *really* useful to
read some of the reply comments on this issue, as I have stated. Phil Karn was
insturemental in getting the power control in the NPRM in the first place, and
then he did a turnaround on this. Reason being, at least for the off the shelf
part 15 stuff, is often there is no way to easily implement power control plus
you have the point to multi-point issue. As rules already existed in amateur
radio to use the least power required for the the communication required,
codifing these technical power control rules exclusively for spread spectrum
had the effect of making it a second class citizen to other modes (as well as
the other implicite rules that do this).

-Jeff

---
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## 22. [ss] Re: High power 802.11

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Mon, 9 Sep 2002 20:16:26 +0100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-97847-2002.09.09-15.00.39--lyris.ss#tapr.org@lists.tapr.org>
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> Why can't spread spectrum be on equal parity with the rest
> of amateur radio?

I think this is a North American preoccupation only.
My licence makes no such spurious distinctions on
modulation method.

UK users have 2310-2400MHz to play with,
80MHz more than in some countries. WLAN RF
hardware won't tune to the bottom of that range;
the filters will roll off and the VCO control voltage
will hit the endstop.

I'm erecting an SMC wireless AP reboxed at the
top of a pole with high-gain omni antennas.

The AP runs OpenAP Linux.

>From my experience of range tests of 2.4GHz
radios, I don't think power & amplifiers is the
issue. Height and antenna gain come first,
especially if you're fixed, not mobile.

I'm going for a 6dBi omni made with heliax
to start but I'm thinking of making a 15dBi
waveguide omni. It must cost much the
the same as an amp, and it helps receive too.
And I won't be polluting the satellite orbit quite
as bad, where we'll be creating problems
for amateur satellites.

There doesn't seem any reason structurally
why waveguides can't be pushed to 3m in
length, at 18dBi, or longer, if you don't mind
fewer channels.

If you want point-to-point then 30dBi dishes
are easy enough; forget the amps.

Ground reflection is a serious problem that
limits range. Open field range falls far short
of free-space range.  Signal drops off a cliff
much quicker than expected, so 6dB more
power doesn't double your range; try 12dB!
To get the range back you need antenna
elevation.

You amateur radio chaps are all already aware
that even a metre of half-decent cable and
connectors will loose you a dB in Tx and a dB
in Rx. A 30-foot mast is great, a 30-foot feeder
is a not.  Mast mounted APs are the only way.
The PC power-users experimenting with their
WLANs are a little more difficult to convince.

I get the feeling that there's more experimenting
going on with 2.4GHz and with Spread-spectrum
in the unlicenced WLAN community than there
is in ham radio circles at the moment. They
already have far more public nodes on the air
than we've ever had packet nodes. If we can
make this the stuff of Amateur Radio, then this
is where new members in future will come from.
Despite the UK's examination reforms, I can't
quite see how they fit through the entry system.
WLAN-surfing is a million miles from a QSO.
We have to start teaching FHSS & DSSS &
DHCP,  not USB, G5RV and you're 5 &9.

I don't think UK authorities are ever likely to
persue unlicenced modifiers of licence-free
2.4GHz WLAN. They wish to avoid managing
the band, that would incur costs. In fact I doubt
they'd know how to, without a piece of paper for
each licenced user. They only respond to
complaints, and if a complaint were made I think
they'd resist persuing it. Things are easy in
licenced bands - visit the known users, or look for
a pirate. In the unlicensed band, some interference
is expected, 100% comms anywhere isn't offered.
You don't know who or where the stations are, you
can't visit them and measure their power, or
separate them out on a spectrum analyser.  A
victim receiver (say a DECT phone) simply
seeing too many other SS signals in-band is not
likely to be analysable to an offender anytime
soon.

There are advantages to staying nominally
"unlicenced" in the UK. There's no restrictions on
unattended operation for WLAN, or what traffic
you carry. But to run unattended, ham station must
notify the authorities, they'll want to know about
your service and who'll use it, they are likely to

inspect arrangements, want keyholders, and the
RSGB band-planning police swing into operation.
And the restrictions on traffic mean you can't  do
what you wanted to do with it. Especially as the other
experimenter's nodes you want to link with aren't
licenced amateurs. If I'm going to attract RF-newbies
into building a WLAN net with their internet and
programming skills,  they're not going to come
from the retired-ranks of the ham-radio club.

Ant  M1FDE

---
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## 23. [ss] Re: High power 802.11

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Tue, 10 Sep 2002 08:48:23 +1000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-97878-2002.09.09-18.29.30--lyris.ss#tapr.org@lists.tapr.org>
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> I mean, you'd have a better case for the legal need for
> automatic power control
> on a 20 meter HF pileup. Amateur radio operators already are
> legally required
> to use the minimum power required for communication and not a
> single instances
> was cited of a spread spectrum operator running excessive
> power for the
> communication at had. However, such cannot be said for VHF/HF contest
> operation. Yet these modes which are commonly abused have no
> need for automatic
> power control.

I can think of an even better case for automatic power control - satellite
operation, where uplink power level is _very_ important.
>
> The issue is NOT the FCC. The issue is our fellow amateur
> radio operators
> technical racisim and fear of spread spectrum. Read the
> comments in the rule
> making.

Fortunately in VK, we don't have this sort of absurdity.  Spread spectrum is
just "another mode".  The main restriction is that it and other wideband
modes can only be used above 420 MHz, and the usual ID provisions apply.
Nothing in our regs specifically singles it out, hence the interest in power
of any (affordable) level. :)

A couple of people are now coming out of the woodwork and declaring their
interest in utilising 802.11b style technology on the amateur bands.

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## 24. [ss] Re: High power 802.11

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Tue, 10 Sep 2002 08:53:59 +1000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-97880-2002.09.09-18.35.00--lyris.ss#tapr.org@lists.tapr.org>
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> Power control is an imperative because the Cross Correlation function
> sidelobes (nominally 30 to 50 db down) are the only control
> over mutual
> interference.  Even with good sidelobes, a nearby station

Still doesn't make it logical to be mandated.  Mutual interference issues
should be sorted out in the amateur community (as they are on other modes).
That gives the freedom for amateurs to innovate and find their own ways of
resolving these issues.  Isn't that what the the whole idea of amateur radio
is about?

---
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## 25. [ss] Re: High power 802.11

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Tue, 10 Sep 2002 09:32:14 +1000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-97931-2002.09.10-00.59.25--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> > Why can't spread spectrum be on equal parity with the rest
> > of amateur radio?
>
> I think this is a North American preoccupation only.
> My licence makes no such spurious distinctions on
> modulation method.
>
> UK users have 2310-2400MHz to play with,
> 80MHz more than in some countries. WLAN RF
> hardware won't tune to the bottom of that range;
> the filters will roll off and the VCO control voltage
> will hit the endstop.

I'll fill in a bit more of the situation Down Under.  I have a foot in both
the amateur and unlicenced camps and have some 802.11b gear running under
the unlicenced conditions at home.

The wireless LAN experimenters down here are well organised and there is a
strong body of technical knowledge - as you'd expect, mostly in the
PC/networking side, but there's increasing RF knowledge as well, and a
strong awareness of the legal requirements for unlicenced operation (Most
Melbourne Wireless members can tell you the EIRP limits here, and a
significant number also know that the 5.2 GHz 802.11a band is for indoor use
only in Australia).

As there are a few amateurs involved, there has been a lot of education on
the RF side of things.  People are generally aware of issues such as
connector loss, and very few even bother to ask about amplifiers nowadays,
because the advantages of antenna gain over amplifiers are well known.

The meetings are also not unlike a radio club meeting/tech night.  One
night, we had a complete simulation of a wireless mesh with OSPF routing
going.  Even has an "electronic hill" to prevent all nodes being able to see
each other.  That network was a lot of fun to setup and tinker with. :)

I've even got a few interested in their amateur licence, which will bring

more computer expertise to amateur circles and hopefully get some more
interest in high speed amateur networks.

> I'm erecting an SMC wireless AP reboxed at the
> top of a pole with high-gain omni antennas.
> The AP runs OpenAP Linux.

I just run a LAN setup ATM.  I can put my wireless router (a Linux notebook)
outside for test purposes on the end of a long Cat 5 cable, and I have a
modified MMDS antenna which seems to work quite well (though only 15 dBi
gain nominally :( ).  Looking for a bigger antenna.
>
> From my experience of range tests of 2.4GHz
> radios, I don't think power & amplifiers is the
> issue. Height and antenna gain come first,
> especially if you're fixed, not mobile.

Agreed.  However, it depends on what you're trying to run.  There are
advantages to having power when considering point-multipoint operation (i.e.
AP style), where the AP antenna gain may be limited by omnidirectional
requirements.  A lot of typical suburban links also have a minor degree of
foliage in the way here, so that extra power may make the difference on a
marginal link, especially in the wet (yes, antenna gain can be increased as
well, but beyond about 25 dBi, that starts to become expensive and
cumbersome too - 25dBi is the limit of commonly available MMDS antennas and
the largest practical size for some sites).

> If you want point-to-point then 30dBi dishes
> are easy enough; forget the amps.

Umm, 30 dBi dishes are not for all sites...  I cartainly couldn't manage
anything more than around 25 dBi.  And that's even before considering wind
loading. :/
>
> Ground reflection is a serious problem that
> limits range. Open field range falls far short
> of free-space range.  Signal drops off a cliff
> much quicker than expected, so 6dB more
> power doesn't double your range; try 12dB!
> To get the range back you need antenna
> elevation.

The old "height is might" applies especially at 2.4 GHz :)
>
> You amateur radio chaps are all already aware
> that even a metre of half-decent cable and
> connectors will loose you a dB in Tx and a dB
> in Rx. A 30-foot mast is great, a 30-foot feeder
> is a not.  Mast mounted APs are the only way.
> The PC power-users experimenting with their
> WLANs are a little more difficult to convince.

Not down here.  A few are already experimenting with PoE (power over
Ethernet) and rooftop APs.  Everyone is well aware of the hideous losses at
2.4 GHz.
>
> I get the feeling that there's more experimenting
> going on with 2.4GHz and with Spread-spectrum
> in the unlicenced WLAN community than there
> is in ham radio circles at the moment. They
> already have far more public nodes on the air
> than we've ever had packet nodes. If we can
> make this the stuff of Amateur Radio, then this
> is where new members in future will come from.

There is a lot of interest in wireless networking.  At Melbourne Wireless,
we have 800 people "interested", probably over 100 actual members (and
100-200 regular online participants).  The monthly meetings consistently
pull in over 60 people which is in the same order as the largest of the
metropolitan radio clubs here.  IMHO, we are looking at the next generation
of radio amateur in these experimenters.  I'm confident some of them will
get their ticket, and it will change out hobby for the better, by adding
diversity.  The high speed networking can be combined with current "hybrid"
ham/Internet technologies such as IRLP and wormholes to achieve all sorts of
things.

> Despite the UK's examination reforms, I can't
> quite see how they fit through the entry system.
> WLAN-surfing is a million miles from a QSO.

> We have to start teaching FHSS & DSSS &
> DHCP,  not USB, G5RV and you're 5 &9.

The Foundation licence is a good start, IMHO.  WLAN gear is commercually built and off the shelf.  In VK, the bands overlap nicely (I hope 2.4 GHz becomes a very basic amateur band one day soon!).

> I don't think UK authorities are ever likely to
> persue unlicenced modifiers of licence-free
> 2.4GHz WLAN. They wish to avoid managing
> the band, that would incur costs. In fact I doubt

Self policing has proved to be successful here.  The WLANers here want to be seen as legitimate and law abiding users of the band, in the face of commercial interests.  As a result, there is a strong push to do things "by the book".

> There are advantages to staying nominally
> "unlicenced" in the UK. There's no restrictions on
> unattended operation for WLAN, or what traffic
> you carry. But to run unattended, ham station must
> notify the authorities, they'll want to know about
> your service and who'll use it, they are likely to

Here, 802.11b is a digital mode, which means it can be run legally as an unattended amateur stations as packet stations routinely do here.

> inspect arrangements, want keyholders, and the
> RSGB band-planning police swing into operation.
> And the restrictions on traffic mean you can't  do
> what you wanted to do with it. Especially as the other

Yes, the traffic issue will always make unlicenced operation attractive.  I see the hardcore "experimenters" still wanting to go the ham route (perhaps running in parallel with a separate unlicenced link like many amateurs kept their CB gear to talk to unlicenced people - not that many would admit it, but you do still see a lot of shacks with a CB or two!! ).

> experimenter's nodes you want to link with aren't
> licenced amateurs. If I'm going to attract RF-newbies
> into building a WLAN net with their internet and
> programming skills,  they're not going to come
> from the retired-ranks of the ham-radio club.

True.  They'll come from the emerging wireless groups which are springing up like mushrooms.  Melbourne Wireless came from nothing 18-24 months ago to what it is today, an incorporated association with an expanding member base and a lot of expertise in many areas.  Their first "meeting", an informal gathering at a pub was less than 12 months ago.  There are similar groups around Australia with similar interests.

802.11b is a dynamic scene and a potential source of new amateurs and ideas.

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## 26. [ss] Re: High power 802.11

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Tue, 10 Sep 2002 10:54:31 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-97991-2002.09.10-11.35.30--lyris.ss#tapr.org@lists.tapr.org>

Rendered body type: text/plain

As Jeff pointed out the 1 Watt deal has nothing to do with RF safety. (see the NPRM) OET Bulletin 65 would still dictate if you need to perform a station evaluation. Just like any other mode. Here is the other pisser: (implies a sub-standard mode)

(b) A station transmitting SS emissions must not cause harmful interference to stations employing other authorized emissions, and must accept all interference caused by stations employing other authorized modes.

Protect the precious contesters, while they can continue to run ample power and possible cause problems for you. As someone pointed out Satellite and contesting are probably two of the most justifiable modes to impose a automatic power control rule on.

I don't intend to use these modified Part 15 devices just for recreational use only. For example down in my State's capital there is a "state hamshack", some crazy old ham copies and pastes the context of inter-office state mock emergency drill e-mail messages and other information of interest into a MSYS message that gets sent all over. The state pulls the telephone plug to simulate an actual emergency. State directors have (fake) fatality counts and so on that need to get to so and so. And since there inter-office email can't talk out side the building, they get sent down to the state hamshack via inter-office email, and he copies and pastes that stuff. Which seems completely stupid to me. All they should have to do is plug in jumper in and have that inter-office router talk over the radio, and the messages could routed back onto the internet after leaving the disaster area via radio. Bottom line is something like modified Part 15 devices could provide a seamless efficient method of getting messages where they need to go in emergencies.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 27. [ss] 802.11b

From: dubose@texas.net
Date: Tue, 10 Sep 2002 14:24:53 US/Central
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-98032-2002.09.10-15.05.57--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have been looking at two threads on 802.11b. This one and one on the SATLUG (http://satlug.org) mail list. The SATLUG thread is of course concerning Part 15 use.

I have just come to realize that the part 15 folks might have several hundred users around town that want some high power/wide area coverage for 802.11b. But, we hams would be lucky to get a dozen, perhaps two, interested in using 802.11b in San Antonio. Well, maybe more; but, they probably would never be more than a dozen or so on at anyone time.

Also, if you restrict the usage to an AmprNet address (44 domain) address, you will have some control over who is on. That could (and you might want to) limit usage on some APs. But a general use Part 97 AP would probably want to use perhaps the 176. (Class B?) domain (I have forgotten exactly whast that IP range is) rather than the other Class A or Class C domain.

If each of us contacts their ARRL Division Director and ask them to support 802.11b operation on the ham bands, I think we have a very good change of getting the ARRL's full backing...I KNOW that we have TAPR's or else we woudln't have this SIG.

While the Part 15 guys worry about not covering too much area and having lots of nodes...we are concerned with wide area coverage. The Part 15 folks want to "drive" thru cells and we want one cell.

There are quite a few differences in our desires and how we might use 802.11b compaired to the other folks.

We need to look at not just moving data; but also, using Voice Over IP.

How about controlling a QRO HF rig via an 802.11b network with VOIP audio. A full GUI for control and headset and mic for voice...or even running high speed robust HF data over the transceiver from your 802.11b laptop.

These are things that the Part 15 folks can't do and we can't either unless we

get all the various groups and individuals interested in 802.11b on the ham
bands along with the ARRL and TAPR...we need everyone singing their own part
off the same sheet of music...a concerted effort.

So if anyone is inclined, go to the ARRL web site and get the E-Mail address of
your division director (generally their callsign@arrl.org) and let them know
how you feel.  Also...and a BIG also, Cc the TAPR president or any, or all, of
their board of directors (http://www.tapr.org/tapr/html/Fiinfo.html).

Hey, we can do it!

73,

Walt/K5YFW

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 28. [ss] Useful Information on Wireless Data Communications

From: dubose@texas.net
Date: Tue, 10 Sep 2002 14:45:53 US/Central
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-98033-2002.09.10-15.26.47--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Useful Information on Wireless Data Communications
from "Compliance Engineering Magazine"

Selected Articles:

Unlicensed Wireless Data Communications, Part I: Defining Requirements
http://www.ce-mag.com/archive/02/Spring/cutler1.html

Unlicensed Wireless Data Communications, Part II: Specifying RF  Parameters
http://www.ce-mag.com/archive/02/Spring/cutler2.html

New Rules for Unlicensed Digital Transmission Systems
http://www.ce-mag.com/archive/02/Spring/cokenias.html

Web Table of Contents:

http://www.ce-mag.com/archive/02/Spring/toc.html

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 29. [ss] Re: 802.11b

From: Jeff King <jeff@aerodata.net>
Date: Tue, 10 Sep 2002 15:01:30 -0500 (CDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-98035-2002.09.10-15.42.28--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Quoting dubose@texas.net:

> If each of us contacts their ARRL Division Director and ask them to support
> 802.11b operation on the ham bands, I think we have a very good change
> of getting the ARRL's full backing...

I'd say that is a safe bet since it already happened a few years ago! ;-0
Entirely legal to operate "802.11b" under part 97 as long as you stay on
channels 1-6. The rules where expanded to allow any hopping or coding sequence.

I think what you are misunderstanding is the anger or disappointment a few of
us expressed in the rules as they were passed a few years ago, in that they
made the Spread Spectrum amateur radio operator a second class citizen in the
ham bands. There really is very little practical advantage in running spread
spectrum under part 97 as compared to Part 15.

I'd suggest you please read these reply comments:

http://www.tapr.org/tapr/html/ss.rule_changes.html

as it clearly goes through who were the Spread Spectrum good guys as well as
bad guys.

73

Jeff King

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 30. [ss] Re: High power 802.11

From: Kris Kirby <kris@catonic.net>
Date: Tue, 10 Sep 2002 21:02:10 +0000 (GMT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-98039-2002.09.10-16.43.09--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Mon, 9 Sep 2002, Clay Bartholow wrote:
> Power is not the problem, in my mind, but rather the automatic power
> control (above 1 W).  Since this is dependent upon the conditions at the
> receiver (not at the transmitter) this suggests some type of feedback from
> receiver to transmitter (unless there is some way to correlate retries to
> the ratio described in Part 97).  I'm just thinking out loud a little here.
>  But this seems like the "sticky wicket" in my mind to the use of
> reasonable power for omnidirectional communications using 802.11b (or any
> other form of SS under Part 97).

In the case of an omnidirectional repeater, automatic transmitter power
limits are pointless; you could easily argue that unless you transmit at
full power all the time, the fringe stations won't know you're even there
or that they can participate. Sure, you _could_ just beacon at high power,
but that's completely pointless because you'd have to retransmit packets
for the low-power users and the high-power users.

IMO, automatic transmitter power control is a bunch of crap, unless you're
running point-to-point, and then it's understandable. Besides, if you're
going to a 99.99999 percent link, you're going to have ample power, gain,
and a few other things. :)

Good lord, 802.11b at 100W... Goodbye Part15 users in the lower end.

--
Kris Kirby, KE4AHR  <kris@nospam.catonic.net>  TGIFreeBSD IM: 'KrisBSD'
                    "BIG BROTHER IS WATCHING YOU!"
 This message brought to you by the US Department of Homeland Security


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 31. [ss] Re: High power 802.11

From: Kris Kirby <kris@catonic.net>
Date: Tue, 10 Sep 2002 21:17:31 +0000 (GMT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-98040-2002.09.10-16.58.42--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Tue, 10 Sep 2002, Steve Lampereur wrote:
> stuff.  Which seems completely stupid to me.  All they should have to do is
> plug in jumper in and have that inter-office router talk over the radio, and
> the messages could routed back onto the internet after leaving the disaster
> area via radio.  Bottom line is something like modified Part 15 devices
> could provide a seamless efficient method of getting messages where they
> need to go in emergencies.

Legalities -- non-ham in control of a ham station, innapropriate content
sent over the air, use of ciphers[0], etc.

[0]: This is another interesting point because I could have a
     pre-encrypted file[1] that I am sending to another ham. I suppose
     it's legal (IANACL) as long as the link itself isn't encrypted. It's
     confusing, nonetheless.
[1]: Binary data is hard to discern -- it could be a zip file, a jpeg, a
     gif, a png, or outright encrypted communications (IPSEC?)

I'm all for everything, but those rules don't allow us to do certain
things.

--
Kris Kirby, KE4AHR  <kris@nospam.catonic.net>  TGIFreeBSD IM: 'KrisBSD'
                    "BIG BROTHER IS WATCHING YOU!"
 This message brought to you by the US Department of Homeland Security


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 32. [ss] Re: High power 802.11

From: "Bret A. Boggs" <bboggs@ameritech.net>
Date: Tue, 10 Sep 2002 17:23:27 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-98041-2002.09.10-17.05.05--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I've been watching the High power 802.11 debate and though I would
through my 2 cents worth in...  Any thoughts on a system that relays
through near by stations to reach outlying stations (a littled like what
is done on X.25, but it is automated)?  To get a better ideal about what
I am talking about, take a look at WaveWireless 9000 series radios or
the NovaRoam 900 system.

Also...  I though 802.11 was not very good at outdoors wide area
applications due to the "hidden station" problem?  The few outdoors
point to multi-point radios I've worked with use a modified 802.11
protocol to avoid the "hidden station" problem.

Bret
WB8WKC

Kris Kirby wrote:

>On Mon, 9 Sep 2002, Clay Bartholow wrote:
>
>>Power is not the problem, in my mind, but rather the automatic power
>>control (above 1 W).  Since this is dependent upon the conditions at the
>>receiver (not at the transmitter) this suggests some type of feedback from
>>receiver to transmitter (unless there is some way to correlate retries to
>>the ratio described in Part 97).  I'm just thinking out loud a little here.
>> But this seems like the "sticky wicket" in my mind to the use of
>>reasonable power for omnidirectional communications using 802.11b (or any
>>other form of SS under Part 97).
>>
>
>In the case of an omnidirectional repeater, automatic transmitter power
>limits are pointless; you could easily argue that unless you transmit at
>full power all the time, the fringe stations won't know you're even there
>or that they can participate. Sure, you _could_ just beacon at high power,
>but that's completely pointless because you'd have to retransmit packets
>for the low-power users and the high-power users.
>
>IMO, automatic transmitter power control is a bunch of crap, unless you're
>running point-to-point, and then it's understandable. Besides, if you're
>going to a 99.99999 percent link, you're going to have ample power, gain,
>and a few other things. :)
>
>Good lord, 802.11b at 100W... Goodbye Part15 users in the lower end.
>
>--
>Kris Kirby, KE4AHR  <kris@nospam.catonic.net>  TGIFreeBSD IM: 'KrisBSD'
>                    "BIG BROTHER IS WATCHING YOU!"
> This message brought to you by the US Department of Homeland Security
>
>
>---
>You are currently subscribed to ss as: bboggs@ameritech.net
>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>

## 33. [ss] Re: High power 802.11

From: Walt DuBose <dubose@texas.net>
Date: Tue, 10 Sep 2002 17:38:01 -0500

To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-98045-2002.09.10-18.17.41--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

"Bret A. Boggs" wrote:
>
>
> Also...  I though 802.11 was not very good at outdoors wide
> area applications due to the "hidden station" problem?  The few
> outdoors point to multi-point radios I've worked with use a
> modified 802.11 protocol to avoid the "hidden station" problem.
>
> Bret
> WB8WKC
>

I think the hidden station problem will exist with any protocol
including SSB on 20 meters.  Ever tried to check into 14.313 and
running only 100 watts?  You get stepped on by all the QRO
stations.

Walt/K5YFW

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 34. [ss] Re: High power 802.11

From: Walt DuBose <dubose@texas.net>
Date: Tue, 10 Sep 2002 17:44:02 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-98047-2002.09.10-18.23.41--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Kris Kirby wrote:
>
> In the case of an omnidirectional repeater, automatic transmitter power
> limits are pointless; you could easily argue that unless you transmit at
> full power all the time, the fringe stations won't know you're even there
> or that they can participate.

That's a very good point and one to use in making a case for an
NPRM relief.

> Good lord, 802.11b at 100W... Goodbye Part15 users in the lower end.

Well, we are licensed and they aren't.  But besides maybe wanting
to be
good neighbors, we might want to a different channel set than the
Part 15
folks.  We could use differnt center frequencies and keep all the
channels
within the ham band.

Walt/K5YFW

PS, I am Big Brother and I'm not watching you.

> --
> Kris Kirby, KE4AHR  <kris@nospam.catonic.net>  TGIFreeBSD IM: 'KrisBSD'
>                     "BIG BROTHER IS WATCHING YOU!"
>  This message brought to you by the US Department of Homeland Security
>
> ---
> You are currently subscribed to ss as: dubose@texas.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 35. [ss] Re: High power 802.11

From: Walt DuBose <dubose@texas.net>
Date: Tue, 10 Sep 2002 17:50:11 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-98048-2002.09.10-18.29.52--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Kris Kirby wrote:
>
> On Tue, 10 Sep 2002, Steve Lampereur wrote:
> > stuff.  Which seems completely stupid to me.  All they should have to do is
> > plug in jumper in and have that inter-office router talk over the radio, and
> > the messages could routed back onto the internet after leaving the disaster
>
> Legalities -- non-ham in control of a ham station, innapropriate content
> sent over the air, use of ciphers[0], etc.
>
> [0]: This is another interesting point because I could have a
>      pre-encrypted file[1] that I am sending to another ham. I suppose
>      it's legal (IANACL) as long as the link itself isn't encrypted. It's
>      confusing, nonetheless.
> [1]: Binary data is hard to discern -- it could be a zip file, a jpeg, a
>      gif, a png, or outright encrypted communications (IPSEC?)
>

Another case for using (1) differnt channel set and different
center
frequenies, (2) AmprNet IP addresses and for control of remote
devices,
user IDs and password. If (1) and (2), it wouldn't matter if they
were
transmitted in the clear...would a ham "steal" another ham's
UserID and
password.

Zipped files and binary files are NOT considered encrypted.
Encryption
is when your intent is to obsecure the trasnmission data from the
FCC.
We could run encryption all we wanted to if we provided the FCC
the "key".

> --
> Kris Kirby, KE4AHR  <kris@nospam.catonic.net>  TGIFreeBSD IM: 'KrisBSD'
>                     "BIG BROTHER IS WATCHING YOU!"
>  This message brought to you by the US Department of Homeland Security

Walt/K5YFW

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 36. [ss] Webgear Aviator 2.4

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Thu, 12 Sep 2002 18:59:16 +0100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-98326-2002.09.12-13.42.18--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Does anyone have the firmware upgrade files for
upgrading the Webgear Aviator 2.4 to Aviator Pro?

AKA the Windows 2000 upgrade?

http://www.webgear.com referred to in all the FAQs as
the source of this firmware upgrade is defunct.

Ant M1FDE

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 37. [ss] Re: Webgear Aviator 2.4

From: Doug Bade <doug@clecom.com>
Date: Thu, 12 Sep 2002 14:38:15 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-98331-2002.09.12-14.19.18--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Yes I do, I can send where ever... there was a valid link not too long ago,
but it had no DNS, but you just needed to know the web site.. I think it is
still in my favorites....

HMM.. cannot find the link but i do have the program, there was a separate
version for win2k, I have that somewhere too, but I do have the pro for win98..

Doug KB8GVQ

At 06:59 PM 9/12/02 +0100, you wrote:
>Does anyone have the firmware upgrade files for
>upgrading the Webgear Aviator 2.4 to Aviator Pro?
>
>AKA the Windows 2000 upgrade?
>
>http://www.webgear.com referred to in all the FAQs as
>the source of this firmware upgrade is defunct.
>
>Ant M1FDE
>
>
>
>---
>You are currently subscribed to ss as: DOUG@CLECOM.COM
>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 38. [ss] Re: Webgear Aviator 2.4

From: Doug Bade <doug@clecom.com>
Date: Thu, 12 Sep 2002 14:43:24 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-98332-2002.09.12-14.24.25--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I found my win 2k version, but as I recall it was beta...
Contact me where to send it..

Doug KB8GVQ

At 02:38 PM 9/12/02 -0400, you wrote:
>Yes I do, I can send where ever... there was a valid link not too long
>ago, but it had no DNS, but you just needed to know the web site.. I think
>it is still in my favorites....
>
>HMM.. cannot find the link but i do have the program, there was a separate
>version for win2k, I have that somewhere too, but I do have the pro for win98..
>
>Doug KB8GVQ
>
>
>
>
>At 06:59 PM 9/12/02 +0100, you wrote:
>>Does anyone have the firmware upgrade files for
>>upgrading the Webgear Aviator 2.4 to Aviator Pro?
>>
>>AKA the Windows 2000 upgrade?
>>
>>http://www.webgear.com referred to in all the FAQs as
>>the source of this firmware upgrade is defunct.
>>
>>Ant M1FDE
>>
>>
>>
>>---
>>You are currently subscribed to ss as: DOUG@CLECOM.COM
>>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>
>---
>You are currently subscribed to ss as: DOUG@CLECOM.COM
>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 39. $ave money on your long distance conference calls

From: "Customer Support Group" <philip_sloss@baf.bonnier.se>
Date: Fri, 13 Sep 2002 09:25:16 -1900
To: <philip_sloss@baf.bonnier.se>
Message-ID: <000022bb6c02$0000188c$00000395@azlan.nl>
Rendered body type: text/html

Lowest Rate Services

Conferencing Made Easy

Only 18 Cents Per Minute!

(Including Long Distance!)

No setup fees

No contracts or monthly fees

Call anytime, from anywhere, to anywhere

Connects up to 100 Participants

Simplicity in set up and administration

Operator Help available 24/7

The Highest Quality Service For The
Lowest Rate In The Industry!

Fill out the form below to find out how you can
lower your phone bill every month.

Required Input Field*

Name*

Web
Address

Company
Name*

State*

Business
Phone*

Home
Phone

Email
Address*

Type of
Business

To be removed from this list, send an e-mail to remove@b2b-mail.net
Type the word "remove" in the subject line.
.

## 40. Your confirmation is needed (ok 6751)

From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Sun, 15 Sep 2002 09:59:49 -0500
To: lyris.ss@tapr.org
Message-ID: <LYR6751-98736-2002.09.15-09.59.49--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Your email address 'lyris.ss@tapr.org' has been submitted to be
unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be
unsubscribed.

```
To confirm that you do want to unsubscribe, reply to this message so that
the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to
unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the
mailing list.

---

Return-Path: <Gary.S@bct.ericsson.se>
Received: from apolo ([200.242.128.183]) by lists.tapr.org with SMTP (Lyris Server version 3.0); Sun, 15
 Sep 2002 09:59:37 -0500
Received: from mail1.s4u.cz (host58-239.pool8019.interbusiness.it [80.19.239.58])
          by apolo (2.0 Build 2144 (Berkeley 8.8.4)/8.8.4) with ESMTP
          id LAA26553; Sun, 15 Sep 2002 11:10:39 -0300
Message-ID: <000028721643$00001f46$00004d60@etrn.nextra.cz>
To: ss-request
From: "I-Corporate News" <Gary.S@bct.ericsson.se>
Subject:
Date: Sun, 15 Sep 2002 07:17:22 -1900
MIME-Version: 1.0
Content-Type: text/html;
        charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <Gary.S@bct.ericsson.se>
Received: from apolo ([200.242.128.183]) by lists.tapr.org with SMTP (Lyris Server version 3.0); Sun, 15
 Sep 2002 09:59:37 -0500
Received: from mail1.s4u.cz (host58-239.pool8019.interbusiness.it [80.19.239.58])
          by apolo (2.0 Build 2144 (Berkeley 8.8.4)/8.8.4) with ESMTP
          id LAA26553; Sun, 15 Sep 2002 11:10:39 -0300
Message-ID: <000028721643$00001f46$00004d60@etrn.nextra.cz>
To: <Gary.S@bct.ericsson.se>
From: "I-Corporate News" <Gary.S@bct.ericsson.se>
Subject: Do you make conference calls?
Date: Sun, 15 Sep 2002 07:17:22 -1900
MIME-Version: 1.0
Content-Type: text/html;
        charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable

<HTML><HEAD><TITLE>Lowest Rate Services</TITLE>
<META http-equiv=3DContent-Type content=3D"text/html; charset=3Dwindows-12=
52">
<META content=3D"MSHTML 5.50.4134.600" name=3DGENERATOR></HEAD>
<BODY vLink=3D#c0c0c0 link=3D#c0c0c0 bgColor=3D#000033 leftMargin=3D0><FON=
T
face=3Darial,helvetica>
<P>
<CENTER>
<TABLE width=3D600 border=3D0>
  <TBODY>
  <TR>
    <TD align=3Dmiddle><B><FONT color=3D#999999 size=3D6>Conferencing Made=
 Easy</FONT><BR>
<FONT color=3D#999999 size=3D5>Only <U>18 Cents</U> Per Minute!</B></FONT>=
</TD></TR></TBODY></TABLE>
<P><FONT color=3D#ff0000 size=3D5><B>(Including Long Distance!)</B></FONT>=

<P>
<TABLE width=3D350 border=3D0>
  <TBODY>
  <TR>
    <TD><FONT color=3D#999999 size=3D3><B>
      <LI>No setup fees
      <LI>No contracts or monthly fees
      <LI>Call anytime, from anywhere, to anywhere
```

```
      <LI>Connects up to 100 Participants
      <LI>Simplicity in set up and administration
      <LI>Operator Help available 24/7 </B></FONT></LI></TD></TR></TBODY><=
/TABLE>
<P>
<TABLE width=3D500 border=3D0>
  <TBODY>
  <TR>
    <TD align=3Dmiddle><FONT color=3D#ff0000 size=3D60><B><FONT size=3D5>T=
he Highest Quality Service For The Lowest Rate In The Industry!</B></FONT>=
</FONT></TD></TR></TBODY></TABLE>
<P>
<TABLE width=3D400 border=3D0>
  <TBODY>
  <TR>
    <TD align=3Dmiddle><FONT color=3D#999999 size=3D4>Fill out the form be=
low to find out how you can lower your phone bill every month.</FONT></TD>=
</TR></TBODY></TABLE>
<P><FONT color=3D#999999 size=3D2>Required Input Field<FONT color=3D#ff000=
0
size=3D2>*</FONT></FONT>
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borderColorLight=3D#ffffcc>
  <TBODY>
  <TR>
    <TD align=3Dmiddle>
      <FORM action=3Dmailto:aud.conf@b2b-mail.net?subject=3DAudioc_Inquiry=

      method=3Dpost encType=3Dtext/plain>
      <TABLE width=3D"100%">
        <TBODY>
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          <TD align=3Dright width=3D"50%"><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#999999
          size=3D2>Name</FONT><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#ff0000
            size=3D2>*</FONT></TD>
          <TD><INPUT name=3DNAME></TD></TR>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#999999 size=3D2=
>Web
            Address</FONT></TD>
          <TD><INPUT value=3Dhttp:// name=3DURL></TD></TR>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#999999 size=3D2=
>Company
            Name</FONT><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#ff0000
            size=3D2>*</FONT></TD>
          <TD><INPUT name=3DCOMPANY_NAME></TD></TR>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT
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>
            State</FONT><FONT
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            size=3D2>*</FONT></TD>
          <TD><INPUT size=3D2 name=3DSTATE></TD></TR>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#999999 size=3D2=
>Business
            Phone</FONT><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#ff0000
            size=3D2>*</FONT></TD>
          <TD><INPUT name=3DBUS_PHONE></TD></TR>
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          <TD align=3Dright width=3D"50%"><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#999999 size=3D2=
>Home
            Phone</FONT></TD>
          <TD><INPUT name=3DHOME_PHONE></TD></TR>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#999999 size=3D2=
```

```
>Email
            Address</FONT><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#ff0000
            size=3D2>*</FONT></TD>
          <TD><INPUT name=3DEMAIL></TD></TR>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT
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>Type of
            Business</FONT></TD>
          <TD><INPUT name=3DTYPE_OF_BUSINESS></TD></TR></TBODY></TABLE>
      <P><INPUT type=3Dsubmit value=3D"Submit Information" name=3Dsubmit>
    </FORM></P></TD></TR></TBODY></TABLE>
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  <TBODY>
  <TR>
    <TD align=3Dmiddle><FONT face=3D"Arial, Helvetica, sans-serif" color=3D=
#999999
      size=3D1>To be removed from this list, send an e-mail to <u>remove@b=
2b-mail.net</u><br>Type the word "remove" in the subject line.
      </FONT>.</FONT></TD></TR></TBODY></TABLE></P></CENTER></BODY></HTML>
```

## 41. [ss] Re: 802.11b and ham radio

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Tue, 17 Sep 2002 12:13:00 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-99097-2002.09.17-12.54.16--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I found what someone was talking about, in a document by by Rob
Beutel for the Air Force Communications Agency:

>COTS WLAN products meet Federal Communications Commission frequency
>requirements and consequently can be freely used by the public and
>military in the continental United States. However, COTS WLAN products
>operate in frequency bands that must accept outside interference from
>other devices. Some sources of interference can severely degrade
>performance; however, in many instances this interference is
>insignificant. These frequency bands are also not authorized for
>military use in foreign nations. The frequency bands allocated for WLAN
>use in the United States are typically limited to private, nonmilitary
>use while outside the U.S. Current COTS WLAN systems typically use three
>frequency bands. These are unlicensed bands in the United States, but
>are largely designated for private use in foreign countries. COTS
> systems operating in frequency bands allocated for military use outside
>the United States are not available. Consequently, the Air Force will
>not be able to expeditiously deploy and operate COTS WLAN systems in
>most foreign nations because of host nation frequency restrictions.
>
>AFCA is looking into modifying COTS wireless LAN products to operate in
>frequency bands that will be more suitable for military operation and
>include enhanced encryption to protect data at appropriate levels. Three
>federal-use frequency bands could be used in WLAN products that might
>resolve current frequency issues. Most COTS WLAN products could be
>easily modified to employ these frequencies because of their modular
>architecture. Perhaps they can even be militarized or developed into a
>form of government-off-the-shelf WLAN system. Future versions of
>modified COTS WLAN products may include frequency agile transceivers
>that can work in multiple frequency bands via plug-in modules or
>software selection.

Ham Ethernet Using Part 15 Wireless Etherenet Devices Under Part 97:
http://www.qsl.net/kb9mwr/projects/wireless/plan.html

---
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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 42. [ss] 900 MHz 802.11b (Thinking Out Loud)

From: dubose@texas.net
Date: Thu, 19 Sep 2002 15:01:34 US/Central
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-99547-2002.09.19-15.45.15--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Apparently there is NO standard on 900 MHz for unlicensed use, so whatever is
done by hams is not bucking an existing standard.

It would seem simple to take a basic 802.11b chip and run it on a 900 MHz RF board.  Well, maybe not simple; but, it would not be like starting from scratch.

There are some 900 MHz RF part availabe and I understand that there are full chipsets out that have 802.11b on them?  Hopefully they are separate from the RF portion of 2.4 GHz.

The more I read, I can see why TAPR wanted to go to FHSS; but, I think that the understanding of 802.11b makes it attractive from a "driver" standpoint for hams using MS, Mac, and Linux for hams as well as non-hams who might want to get into ham radio because of this "new" use of technology.

I have noted that 802.11b on 2.4 GHz has a 22 MHz channel width and that channels are 5 MHz apart.  Using this on 900 MHz, starting at  the bottom of the band you would go from 902-924 Mhz but you could NOT have a second channel.

However, if you could compress the channel width to 21 MHz, you could have one channel from 902-923 MHz and another channel from 907-928 Mhz.  I don't know then if a standard 802.11b chipset would work.

I guess the another question is are their chipsets out that do FHSS?   And, could you marry one of those chipsets with a 900 MHz transmitter?

As you can tell, I'm not interested in creating a new "wheel", just using what is already available (especially protocol wise) and making a usable product.

Walt/K5YFW

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 43. [ss] Re: 900 MHz 802.11b (Thinking Out Loud)

From: "Hugh Shane" <hughs@tetonvalley.net>
Date: Thu, 19 Sep 2002 14:48:33 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-99562-2002.09.19-16.30.33--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> It would seem simple to take a basic 802.11b chip and run it on a 900 MHz RF
> board.  Well, maybe not simple; but, it would not be like starting from
> scratch.
>
> There are some 900 MHz RF part availabe and I understand that there are full
> chipsets out that have 802.11b on them?  Hopefully they are separate from the
> RF portion of 2.4 GHz.
>

Take a look at Intersil's chip set:
http://www.intersil.com/design/prism/ser-p25-11mbps.asp

This chipset clearly separates the RF/IF parts from the MAC/baseband parts. I need
to take a closer look at these, and some other vendors', parts. But it seems like it could
be done without adding too many more gray hairs.

    Hugh
    N7UAX

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 44. [ss] Re: 900 MHz 802.11b (Thinking Out Loud)

From: dubose@texas.net
Date: Thu, 19 Sep 2002 16:12:42 US/Central
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>

Message-ID: <LYR6751-99572-2002.09.19-16.54.13--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> >
> > It would seem simple to take a basic 802.11b chip and run it on a 900 MHz
> RF
> > board.  Well, maybe not simple; but, it would not be like starting from
> > scratch.
> >
> > There are some 900 MHz RF part availabe and I understand that there are
> full
> > chipsets out that have 802.11b on them?  Hopefully they are separate from
> the
> > RF portion of 2.4 GHz.
> >
>
> Take a look at Intersil's chip set:
> http://www.intersil.com/design/prism/ser-p25-11mbps.asp
>
> This chipset clearly separates the RF/IF parts from the MAC/baseband parts.
> I need
> to take a closer look at these, and some other vendors', parts. But it seems
> like it could
> be done without adding too many more gray hairs.
>     Hugh
>     N7UAX

This a great find.

Just a quick look is has got my interest up.  It sure does look like you could hack out the RF unit and add your own RF unit for 900 MHz.  Of course you would have to be careful not to have your RF unit going outside the ham band.

I am also impressed that it appears that you can use USB PCMCIA and PCI as an interface...one card does it all.

I will have to look up how far you can run a USB cable...maybe you could put the card up on high on your antenna mast so you would have only a short run of coax.

Walt/K5YFW

---
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## 45. [ss] Re: 900 MHz 802.11b (Thinking Out Loud) <LYR30627-99572-2002.09.19-16.54.13--spamdump#optonline.net@lists.tapr.org>

From: spamdump <spamdump@optonline.net>
Date: Thu, 19 Sep 2002 19:10:19 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-99593-2002.09.19-18.51.36--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi

After reading this thread and with my very recent Intersil prism experience, I'd say to find another way. Intersil is not likely to sell one or two chips to anyone. (Although you could buy PRISM based NICS and hack them.) They are only interested in accounts of 1e6 parts per year. I recently wanted to build 5K radios. Their answer was that they would sell me the chips but that I would get no support. With that as their position, I had to tell my customer to do it another way. They did.

If you want to work in 900 MHz, go find a bunch of old NCR (then ATnT, then Lucent, then Orinoco, then Agere, now Proxim) Wavelan ISA boards circa 1990. They work really well. You can only get drivers that were written for Win95 but happen to work with Win98, possibly ME, definately not 2000 or XP. No support. They do need ISA slots. My first wlan was done with these boards and I only took it down 2 months ago. On the up side, they are very discrete and consequently very modifiable.

Regards
Ken

-----Original Message-----
From: bounce-ss-30627@lists.tapr.org

[mailto:bounce-ss-30627@lists.tapr.org]On Behalf Of dubose@texas.net
Sent: Thursday, September 19, 2002 12:13 PM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] Re: 900 MHz 802.11b (Thinking Out Loud)

> >
> > It would seem simple to take a basic 802.11b chip and run it on a 900
MHz
> RF
> > board.  Well, maybe not simple; but, it would not be like starting from
> > scratch.
> >
> > There are some 900 MHz RF part availabe and I understand that there are
> full
> > chipsets out that have 802.11b on them?  Hopefully they are separate
from
> the
> > RF portion of 2.4 GHz.
> >
>
> Take a look at Intersil's chip set:
> http://www.intersil.com/design/prism/ser-p25-11mbps.asp
>
> This chipset clearly separates the RF/IF parts from the MAC/baseband
parts.
> I need
> to take a closer look at these, and some other vendors', parts. But it
seems
> like it could
> be done without adding too many more gray hairs.
>     Hugh
>     N7UAX

This a great find.

Just a quick look is has got my interest up.  It sure does look like you
could
hack out the RF unit and add your own RF unit for 900 MHz.  Of course you
would
have to be careful not to have your RF unit going outside the ham band.

I am also impressed that it appears that you can use USB PCMCIA and PCI as
an
interface...one card does it all.

I will have to look up how far you can run a USB cable...maybe you could put
the card up on high on your antenna mast so you would have only a short run
of
coax.

Walt/K5YFW

---
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---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 46. [ss] Re: 900 MHz 802.11b

From: "Marcelo Puhl" <mark@cpovo.net>
Date: Thu, 19 Sep 2002 20:30:24 -0300
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-99597-2002.09.19-19.11.40--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 19 Sep 2002 at 19:10, spamdump wrote:

> If you want to work in 900 MHz, go find a bunch of old NCR (then ATnT, then
> Lucent, then Orinoco, then Agere, now Proxim) Wavelan ISA boards circa 1990.
> They work really well. You can only get drivers that were written for Win95
> but happen to work with Win98, possibly ME, definately not 2000 or XP. No
> support. They do need ISA slots. My first wlan was done with these boards

> and I only took it down 2 months ago. On the up side, they are very discrete
> and consequently very modifiable.
>

Do you know a cheap source for those Wavelan boards?

Thanks.

------
Marcelo Puhl
http://py3ss.cjb.net


---
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## 47. [ss] Re: 900 MHz 802.11b (Thinking Out Loud)

From: xlpitlum <multiplx@online.dct.com>
Date: Thu, 19 Sep 2002 18:30:11 -0500 (CDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-99599-2002.09.19-19.12.00--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Apparently there is NO standard on 900 MHz for unlicensed use, so whatever is
> done by hams is not bucking an existing standard.
>
> It would seem simple to take a basic 802.11b chip and run it on a 900 MHz RF
> board.  Well, maybe not simple; but, it would not be like starting from
> scratch.
>
> There are some 900 MHz RF part availabe and I understand that there are full
> chipsets out that have 802.11b on them?  Hopefully they are separate from the
> RF portion of 2.4 GHz.
>
> The more I read, I can see why TAPR wanted to go to FHSS; but, I think that the
> understanding of 802.11b makes it attractive from a "driver" standpoint for
> hams using MS, Mac, and Linux for hams as well as non-hams who might want to
> get into ham radio because of this "new" use of technology.
>
> I have noted that 802.11b on 2.4 GHz has a 22 MHz channel width and that
> channels are 5 MHz apart.  Using this on 900 MHz, starting at  the bottom of
> the band you would go from 902-924 Mhz but you could NOT have a second channel.
>
> However, if you could compress the channel width to 21 MHz, you could have one
> channel from 902-923 MHz and another channel from 907-928 Mhz.  I don't know
> then if a standard 802.11b chipset would work.
>
> I guess the another question is are their chipsets out that do FHSS?   And,
> could you marry one of those chipsets with a 900 MHz transmitter?
>
> As you can tell, I'm not interested in creating a new "wheel", just using what
> is already available (especially protocol wise) and making a usable product.
>
> Walt/K5YFW

 It's theoretically possible to do this.  I have some ideas for external
 transverters based around the Proxim Symphony/RangeLAN FHSS gear.  Their
 low TX/RX switching times and FSK modulation makes for ideal use of
 external high-power, cellular surplus RF power amplifiers.

 Schematics / block diagrams are here:

 2400 MHz to 900 MHz Transverter for Wireless LAN Devices
  http://www.qsl.net/n9zia/2400-to-900.html

 2400 MHz to 1200 MHz Transverter for Wireless LAN Devices
  http://www.qsl.net/n9zia/trans/index.html

 These ideas are experimental, and based around hardware I have readily
 available, hence the lame design.

 Old Proxim Symphony 2.4 GHz bridges and cards sell for around $40.

 802.11b DSSS isn't really ment for the demanding challenge which is
 the 900 MHz band.  The amount of in-band and outer-band interference is
 staggering.  It may be better to utilize the 1.2 GHz or even the 440 MHz
 bands.

---
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## 48. [ss] Re: 900 MHz 802.11b (Thinking Out Loud)

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Fri, 20 Sep 2002 10:20:34 +1000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-99608-2002.09.19-20.02.04--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>  802.11b DSSS isn't really ment for the demanding challenge which is
>  the 900 MHz band.  The amount of in-band and outer-band
> interference is
>  staggering.  It may be better to utilize the 1.2 GHz or even
> the 440 MHz
>  bands.

1200 and 440 MHz are also of interest to those outside the US.  1200 MHz is
especially interesting to me.

---
Outgoing mail ihas been scanned for Viruses
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.389 / Virus Database: 220 - Release Date: 16/09/2002

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## 49. [ss] Re: 900 MHz 802.11b <LYR30627-99597-2002.09.19-19.11.40--spamdump#optonline.net@lists.tapr.org>

From: spamdump <spamdump@optonline.net>
Date: Thu, 19 Sep 2002 21:14:18 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-99618-2002.09.19-20.55.40--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Marcelo,
Please send me a email at spamdump at optonline dot net.
Ken

-----Original Message-----
From: bounce-ss-30627@lists.tapr.org
[mailto:bounce-ss-30627@lists.tapr.org]On Behalf Of Marcelo Puhl
Sent: Thursday, September 19, 2002 7:30 PM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] Re: 900 MHz 802.11b

On 19 Sep 2002 at 19:10, spamdump wrote:

> If you want to work in 900 MHz, go find a bunch of old NCR (then ATnT,
then
> Lucent, then Orinoco, then Agere, now Proxim) Wavelan ISA boards circa
1990.
> They work really well. You can only get drivers that were written for
Win95
> but happen to work with Win98, possibly ME, definately not 2000 or XP. No
> support. They do need ISA slots. My first wlan was done with these boards
> and I only took it down 2 months ago. On the up side, they are very
discrete
> and consequently very modifiable.
>

Do you know a cheap source for those Wavelan boards?

Thanks.

------
Marcelo Puhl
http://py3ss.cjb.net

---
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---
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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 50. [ss] Re: 900 MHz 802.11b (Thinking Out Loud)

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Sat, 21 Sep 2002 06:16:41 +1000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-99717-2002.09.20-16.01.06--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

G'Day All...

>However, if you could compress the channel width to 21 MHz, you could
have one
>channel from 902-923 MHz and another channel from 907-928 Mhz.  I don't
know
>then if a standard 802.11b chipset would work.

The problem here is that the 'channels' are not really channels.
Channels sort of designate exclusive use. The use of 'Channel' is a
marketing work that should be 'Center Frequency'. The 'channels' overlap
so much that there is not much use having them.

On 2.4 GHZ it is possible to have one station on Channel 1 and the other
on Channel 2 and get a good link - since only 5 MHz out of 22 MHz does
not overlap.

I would have two suggestions...
        Use a single 'channel' only in the band
        Move the 22 MHz down to 11 MHz if possible and have two
channels.

The two 21 MHz channels at 5 MHz seperations only seem to be of use for
interference offset purposes

Darryl
---------
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

---
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## 51. [ss] Re: ss digest: September 19, 2002

From: Jim Ussailis <ussailis@equinox.shaysnet.com>
Date: Fri, 20 Sep 2002 21:51:27 -0400 (EDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: ss digest recipients <ss@lists.tapr.org>
Message-ID: <LYR6751-99758-2002.09.20-21.29.00--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I can see a problem using a chipset designed for the 2.45 band at 900
MHz. Both FH and DSSS signals generate spectral sidelobes. In the 2.45
band there is specrum space for the sidelobes without the signal going
out of the band. This space isn't available in the 900 MHz band.

Someone needs to research the sideband attenuation requirements for the
amateur service.

Jim W1EQO

PS FYI. The math that describes generation of these spectral sidelobes is
exactly the same as that which describes generation of antenna sidelobes.

On Fri, 20 Sep 2002, TAPR Spread Spectrum Special Interest Group digest wrote:

> TAPR Spread Spectrum Special Interest Group Digest for Thursday, September 19, 2002.
>
> 1. 900 MHz 802.11b (Thinking Out Loud)
> 2. Re: 900 MHz 802.11b (Thinking Out Loud)
> 3. Re: 900 MHz 802.11b (Thinking Out Loud)
> 4. Re: 900 MHz 802.11b (Thinking Out Loud)
<LYR30627-99572-2002.09.19-16.54.13--spamdump#optonline.net@lists.tapr.org>
> 5. Re: 900 MHz 802.11b
> 6. Re: 900 MHz 802.11b (Thinking Out Loud)
> 7. Re: 900 MHz 802.11b (Thinking Out Loud)
> 8. Re: 900 MHz 802.11b <LYR30627-99597-2002.09.19-19.11.40--spamdump#optonline.net@lists.tapr.org>
>
> ----------------------------------------------------------------------
>
> Subject: 900 MHz 802.11b (Thinking Out Loud)
> From: dubose@texas.net
> Date: Thu, 19 Sep 2002 15:01:34 US/Central
> X-Message-Number: 1
>
> Apparently there is NO standard on 900 MHz for unlicensed use, so whatever is
> done by hams is not bucking an existing standard.
>
> It would seem simple to take a basic 802.11b chip and run it on a 900 MHz RF
> board.  Well, maybe not simple; but, it would not be like starting from
> scratch.
>
> There are some 900 MHz RF part availabe and I understand that there are full
> chipsets out that have 802.11b on them?  Hopefully they are separate from the
> RF portion of 2.4 GHz.
>
> The more I read, I can see why TAPR wanted to go to FHSS; but, I think that the
> understanding of 802.11b makes it attractive from a "driver" standpoint for
> hams using MS, Mac, and Linux for hams as well as non-hams who might want to
> get into ham radio because of this "new" use of technology.
>
> I have noted that 802.11b on 2.4 GHz has a 22 MHz channel width and that
> channels are 5 MHz apart.  Using this on 900 MHz, starting at  the bottom of
> the band you would go from 902-924 Mhz but you could NOT have a second channel.
>
> However, if you could compress the channel width to 21 MHz, you could have one
> channel from 902-923 MHz and another channel from 907-928 Mhz.  I don't know
> then if a standard 802.11b chipset would work.
>
> I guess the another question is are their chipsets out that do FHSS?   And,
> could you marry one of those chipsets with a 900 MHz transmitter?
>
> As you can tell, I'm not interested in creating a new "wheel", just using what
> is already available (especially protocol wise) and making a usable product.
>
> Walt/K5YFW
>
>
> ----------------------------------------------------------------------
>
> Subject: Re: 900 MHz 802.11b (Thinking Out Loud)
> From: "Hugh Shane" <hughs@tetonvalley.net>
> Date: Thu, 19 Sep 2002 14:48:33 -0600
> X-Message-Number: 2
>
> >
> > It would seem simple to take a basic 802.11b chip and run it on a 900 MHz
> RF
> > board.  Well, maybe not simple; but, it would not be like starting from
> > scratch.
> >
> > There are some 900 MHz RF part availabe and I understand that there are
> full
> > chipsets out that have 802.11b on them?  Hopefully they are separate from
> the

> > RF portion of 2.4 GHz.
> >
>
> Take a look at Intersil's chip set:
> http://www.intersil.com/design/prism/ser-p25-11mbps.asp
>
> This chipset clearly separates the RF/IF parts from the MAC/baseband parts.
> I need
> to take a closer look at these, and some other vendors', parts. But it seems
> like it could
> be done without adding too many more gray hairs.
>
>     Hugh
>     N7UAX
>
>
>
>
> ---------------------------------------------------------------------
>
> Subject: Re: 900 MHz 802.11b (Thinking Out Loud)
> From: dubose@texas.net
> Date: Thu, 19 Sep 2002 16:12:42 US/Central
> X-Message-Number: 3
>
> > >
> > > It would seem simple to take a basic 802.11b chip and run it on a 900 MHz
> > RF
> > > board.  Well, maybe not simple; but, it would not be like starting from
> > > scratch.
> > >
> > > There are some 900 MHz RF part availabe and I understand that there are
> > full
> > > chipsets out that have 802.11b on them?  Hopefully they are separate from
> > the
> > > RF portion of 2.4 GHz.
> > >
> >
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> >
> > This chipset clearly separates the RF/IF parts from the MAC/baseband parts.
> > I need
> > to take a closer look at these, and some other vendors', parts. But it seems
> > like it could
> > be done without adding too many more gray hairs.
> >     Hugh
> >     N7UAX
>
> This a great find.
>
> Just a quick look is has got my interest up.  It sure does look like you could
> hack out the RF unit and add your own RF unit for 900 MHz.  Of course you would
> have to be careful not to have your RF unit going outside the ham band.
>
> I am also impressed that it appears that you can use USB PCMCIA and PCI as an
> interface...one card does it all.
>
> I will have to look up how far you can run a USB cable...maybe you could put
> the card up on high on your antenna mast so you would have only a short run of
> coax.
>
> Walt/K5YFW
>
>
> ---------------------------------------------------------------------
>
> Subject: Re: 900 MHz 802.11b (Thinking Out Loud)
<LYR30627-99572-2002.09.19-16.54.13--spamdump#optonline.net@lists.tapr.org>
> From: spamdump <spamdump@optonline.net>
> Date: Thu, 19 Sep 2002 19:10:19 -0400
> X-Message-Number: 4
>
>
> Hi
>
> After reading this thread and with my very recent Intersil prism experience,
> I'd say to find another way. Intersil is not likely to sell one or two chips
> to anyone. (Although you could buy PRISM based NICS and hack them.) They are

> only interested in accounts of 1e6 parts per year. I recently wanted to
> build 5K radios. Their answer was that they would sell me the chips but that
> I would get no support. With that as their position, I had to tell my
> customer to do it another way. They did.
>
> If you want to work in 900 MHz, go find a bunch of old NCR (then ATnT, then
> Lucent, then Orinoco, then Agere, now Proxim) Wavelan ISA boards circa 1990.
> They work really well. You can only get drivers that were written for Win95
> but happen to work with Win98, possibly ME, definately not 2000 or XP. No
> support. They do need ISA slots. My first wlan was done with these boards
> and I only took it down 2 months ago. On the up side, they are very discrete
> and consequently very modifiable.
>
> Regards
> Ken
>
>
> -----Original Message-----
> From: bounce-ss-30627@lists.tapr.org
> [mailto:bounce-ss-30627@lists.tapr.org]On Behalf Of dubose@texas.net
> Sent: Thursday, September 19, 2002 12:13 PM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: 900 MHz 802.11b (Thinking Out Loud)
>
>
> > >
> > > It would seem simple to take a basic 802.11b chip and run it on a 900
> MHz
> > RF
> > > board.  Well, maybe not simple; but, it would not be like starting from
> > > scratch.
> > >
> > > There are some 900 MHz RF part availabe and I understand that there are
> > full
> > > chipsets out that have 802.11b on them?  Hopefully they are separate
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> > the
> > > RF portion of 2.4 GHz.
> > >
> >
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> > http://www.intersil.com/design/prism/ser-p25-11mbps.asp
> >
> > This chipset clearly separates the RF/IF parts from the MAC/baseband
> parts.
> > I need
> > to take a closer look at these, and some other vendors', parts. But it
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> > like it could
> > be done without adding too many more gray hairs.
> >     Hugh
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>
> This a great find.
>
> Just a quick look is has got my interest up.  It sure does look like you
> could
> hack out the RF unit and add your own RF unit for 900 MHz.  Of course you
> would
> have to be careful not to have your RF unit going outside the ham band.
>
> I am also impressed that it appears that you can use USB PCMCIA and PCI as
> an
> interface...one card does it all.
>
> I will have to look up how far you can run a USB cable...maybe you could put
> the card up on high on your antenna mast so you would have only a short run
> of
> coax.
>
> Walt/K5YFW
>
>
> ---
> You are currently subscribed to ss as: spamdump@optonline.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>
>

> 
> ------------------------------------------------------------------------
> 
> Subject: Re: 900 MHz 802.11b
> From: "Marcelo Puhl" <mark@cpovo.net>
> Date: Thu, 19 Sep 2002 20:30:24 -0300
> X-Message-Number: 5
> 
> On 19 Sep 2002 at 19:10, spamdump wrote:
> 
> > If you want to work in 900 MHz, go find a bunch of old NCR (then ATnT, then
> > Lucent, then Orinoco, then Agere, now Proxim) Wavelan ISA boards circa 1990.
> > They work really well. You can only get drivers that were written for Win95
> > but happen to work with Win98, possibly ME, definately not 2000 or XP. No
> > support. They do need ISA slots. My first wlan was done with these boards
> > and I only took it down 2 months ago. On the up side, they are very discrete
> > and consequently very modifiable.
> >
> 
> Do you know a cheap source for those Wavelan boards?
> 
> Thanks.
> 
> ------
> Marcelo Puhl
> http://py3ss.cjb.net
> 
> 
> ------------------------------------------------------------------------
> 
> Subject: Re: 900 MHz 802.11b (Thinking Out Loud)
> From: xlpitlum <multiplx@online.dct.com>
> Date: Thu, 19 Sep 2002 18:30:11 -0500 (CDT)
> X-Message-Number: 6
> 
> > Apparently there is NO standard on 900 MHz for unlicensed use, so whatever is
> > done by hams is not bucking an existing standard.
> >
> > It would seem simple to take a basic 802.11b chip and run it on a 900 MHz RF
> > board.  Well, maybe not simple; but, it would not be like starting from
> > scratch.
> >
> > There are some 900 MHz RF part availabe and I understand that there are full
> > chipsets out that have 802.11b on them?  Hopefully they are separate from the
> > RF portion of 2.4 GHz.
> >
> > The more I read, I can see why TAPR wanted to go to FHSS; but, I think that the
> > understanding of 802.11b makes it attractive from a "driver" standpoint for
> > hams using MS, Mac, and Linux for hams as well as non-hams who might want to
> > get into ham radio because of this "new" use of technology.
> >
> > I have noted that 802.11b on 2.4 GHz has a 22 MHz channel width and that
> > channels are 5 MHz apart.  Using this on 900 MHz, starting at  the bottom of
> > the band you would go from 902-924 Mhz but you could NOT have a second channel.
> >
> > However, if you could compress the channel width to 21 MHz, you could have one
> > channel from 902-923 MHz and another channel from 907-928 Mhz.  I don't know
> > then if a standard 802.11b chipset would work.
> >
> > I guess the another question is are their chipsets out that do FHSS?   And,
> > could you marry one of those chipsets with a 900 MHz transmitter?
> >
> > As you can tell, I'm not interested in creating a new "wheel", just using what
> > is already available (especially protocol wise) and making a usable product.
> >
> > Walt/K5YFW
> 
>  It's theoretically possible to do this.  I have some ideas for external
>  transverters based around the Proxim Symphony/RangeLAN FHSS gear.  Their
>  low TX/RX switching times and FSK modulation makes for ideal use of
>  external high-power, cellular surplus RF power amplifiers.
> 
>  Schematics / block diagrams are here:
> 
>  2400 MHz to 900 MHz Transverter for Wireless LAN Devices
>   http://www.qsl.net/n9zia/2400-to-900.html
> 
>  2400 MHz to 1200 MHz Transverter for Wireless LAN Devices
>   http://www.qsl.net/n9zia/trans/index.html

>
>  These ideas are experimental, and based around hardware I have readily
>  available, hence the lame design.
>
>  Old Proxim Symphony 2.4 GHz bridges and cards sell for around $40.
>
>  802.11b DSSS isn't really ment for the demanding challenge which is
>  the 900 MHz band.  The amount of in-band and outer-band interference is
>  staggering.  It may be better to utilize the 1.2 GHz or even the 440 MHz
>  bands.
>
>
> ---------------------------------------------------------------------
>
> Subject: Re: 900 MHz 802.11b (Thinking Out Loud)
> From: Tony Langdon <tlangdon@atctraining.com.au>
> Date: Fri, 20 Sep 2002 10:20:34 +1000
> X-Message-Number: 7
>
> >  802.11b DSSS isn't really ment for the demanding challenge which is
> >  the 900 MHz band.  The amount of in-band and outer-band=20
> > interference is
> >  staggering.  It may be better to utilize the 1.2 GHz or even=20
> > the 440 MHz
> >  bands.
>
> 1200 and 440 MHz are also of interest to those outside the US.  1200 =
> MHz is
> especially interesting to me.
>
> ---
> Outgoing mail ihas been scanned for Viruses
> Checked by AVG anti-virus system (http://www.grisoft.com).
> Version: 6.0.389 / Virus Database: 220 - Release Date: 16/09/2002
> =20
>
> This correspondence is for the named person=92s use only. It may =
> contain
> confidential or legally privileged information or both. No =
> confidentiality
> or privilege is waived or lost by any mistransmission. If you receive =
> this
> correspondence in error, please immediately delete it from your system =
> and
> notify the sender. You must not disclose, copy or rely on any part of =
> this
> correspondence if you are not the intended recipient.
>
> Any opinions expressed in this message are those of the individual =
> sender.
>
>
> ---------------------------------------------------------------------
>
> Subject: Re: 900 MHz 802.11b
<LYR30627-99597-2002.09.19-19.11.40--spamdump#optonline.net@lists.tapr.org>
> From: spamdump <spamdump@optonline.net>
> Date: Thu, 19 Sep 2002 21:14:18 -0400
> X-Message-Number: 8
>
> Marcelo,
> Please send me a email at spamdump at optonline dot net.
> Ken
>
>
> -----Original Message-----
> From: bounce-ss-30627@lists.tapr.org
> [mailto:bounce-ss-30627@lists.tapr.org]On Behalf Of Marcelo Puhl
> Sent: Thursday, September 19, 2002 7:30 PM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: 900 MHz 802.11b
>
>
> On 19 Sep 2002 at 19:10, spamdump wrote:
>
> > If you want to work in 900 MHz, go find a bunch of old NCR (then ATnT,
> then
> > Lucent, then Orinoco, then Agere, now Proxim) Wavelan ISA boards circa
> 1990.

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> > but happen to work with Win98, possibly ME, definately not 2000 or XP. No
> > support. They do need ISA slots. My first wlan was done with these boards
> > and I only took it down 2 months ago. On the up side, they are very
> discrete
> > and consequently very modifiable.
> >
>
> Do you know a cheap source for those Wavelan boards?
>
> Thanks.
>
> ------
> Marcelo Puhl
> http://py3ss.cjb.net
>
>
> ---
> You are currently subscribed to ss as: spamdump@optonline.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>
>
>
>
>
> ---
>
> END OF DIGEST
>
> ---
> You are currently subscribed to ss as: ussailis@shaysnet.com
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 52. Your confirmation is needed (ok 6751)

From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Sat, 21 Sep 2002 08:36:46 -0500
To: lyris.ss@tapr.org
Message-ID: <LYR6751-99812-2002.09.21-08.36.46--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Your email address 'lyris.ss@tapr.org' has been submitted to be
unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be
unsubscribed.

To confirm that you do want to unsubscribe, reply to this message so that
the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to
unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the
mailing list.

---

Return-Path: <kosd@wses.org>
Received: from mailsrv.otenet.gr ([195.170.0.5]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
 Sat, 21 Sep 2002 08:36:40 -0500
Received: from roba.otenet.gr (roba.otenet.gr [195.170.0.17])
        by mailsrv.otenet.gr (8.12.4/8.12.4) with ESMTP id g8LCtHGS018418
        for <leave-ss-6751t@lists.tapr.org>; Sat, 21 Sep 2002 15:55:17 +0300 (EEST)
Received: from wses.org (athe530-h179.otenet.gr [212.205.217.179])
        by roba.otenet.gr (8.12.4/8.12.4) with SMTP id g8LCtFJM011437
        for <leave-ss-6751t@lists.tapr.org>; Sat, 21 Sep 2002 15:55:15 +0300 (EEST)
Message-Id: <200209211255.g8LCtFJM011437@roba.otenet.gr>
From: "kosd@wses.org" <kosd@wses.org>

```
To: ss-request
Subject:
Sender: "kosd@wses.org" <kosd@wses.org>
Mime-Version: 1.0
Content-Type: text/html; charset="us-ascii"
Date: Sat, 21 Sep 2002 15:55:18 +0300
Content-Transfer-Encoding: 8bit

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <kosd@wses.org>
Received: from mailsrv.otenet.gr ([195.170.0.5]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
 Sat, 21 Sep 2002 08:36:40 -0500
Received: from roba.otenet.gr (roba.otenet.gr [195.170.0.17])
        by mailsrv.otenet.gr (8.12.4/8.12.4) with ESMTP id g8LCtHGS018418
        for <leave-ss-6751t@lists.tapr.org>; Sat, 21 Sep 2002 15:55:17 +0300 (EEST)
Received: from wses.org (athe530-h179.otenet.gr [212.205.217.179])
        by roba.otenet.gr (8.12.4/8.12.4) with SMTP id g8LCtFJM011437
        for <leave-ss-6751t@lists.tapr.org>; Sat, 21 Sep 2002 15:55:15 +0300 (EEST)
Message-Id: <200209211255.g8LCtFJM011437@roba.otenet.gr>
From: "kosd@wses.org" <kosd@wses.org>
To: <leave-ss-6751t@lists.tapr.org>
Subject: Newsletter
Sender: "kosd@wses.org" <kosd@wses.org>
Mime-Version: 1.0
Content-Type: text/html; charset="us-ascii"
Date: Sat, 21 Sep 2002 15:55:18 +0300
Content-Transfer-Encoding: 8bit

<HTML>

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<style>
a{text-decoration:none}
</style>



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  <tr>
    <td width="50%" height="2110" rowSpan="2"><font face="Arial Black"><b>
    <p align="left">Call for Papers<br>
    <font color="#800000">WSEAS  Conferences</font></p>
    </b></font>
    <p align="left"><b><a href="http://www.wseas.org">
    <font face="Arial Black" color="#000000">www.wseas.org</font></a></b></p>

Accepted Papers are published in: <BR>
Proceedings, Special Issues of International Book Series<BR>
or WSEAS Transactions (Journals)<BR><BR><BR>

    <table width="760" bgColor="#ffffff" border="0">
      <tr>
        <td width="754"><b>Singapore, December 9-12, 2002 (two conferences //
        <font color="#ff0000">NEW Deadline for paper submission: September 30,
        2002)</font></b><font color="#000000">
        <ul>
          <li><a href="http://www.wseas.org/conferences/2002/singapore/ecs"
target="_blank">2002
          WSEAS Int.Conf. on <u>ELECTRONICS, CONTROL &amp;amp; SIGNAL PROCESSING</u>
          <ul>
            <li>Symposium on Electronics </li>
            <li>Symposium on Control </li>
            <li>Symposium on Signal Processing </li>
          </ul>
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href="http://www.wseas.org/conferences/2002/singapore/e-activities" target="_blank">
          2002 WSEAS Int.Conf. on <u>E-ACTIVITIES</u> (E-Learning,
          E-Communities, E-Commerce, E-Management, E-Marketing, E-Governance and
          Tele-Working) </a></li>
        </ul>
        </font>
        <p><b>Puerto De La Cruz, Tenerife, Canary Islands, Spain, Dec. 19-21,
        2002 (six conferences // <font color="#ff0000">NEW Deadline for paper
        submission: September 30, 2002)</font></b><font color="#000000"> </p>
        <ul>
          <li><a href="http://www.wseas.org/conferences/2002/tenerife/icamsl"
target="_blank">3rd
          WSEAS Int. Conf. on <u>ACOUSTICS, MUSIC, SPEECH AND LANGUAGE
          PROCESSING</u> (former Acoustics and Music: Theory and Applications)
          </a></li>
        </ul>
        <ul>
          <li><a href="http://www.wseas.org/conferences/2002/tenerife/mcbc"
target="_blank">3rd WSEAS
          Int. Conf. on <u>MATHEMATICS AND COMPUTERS IN BIOLOGY AND CHEMISTRY</u>
          (MCBC 2002)</a></li>
        </ul>
        <ul>
          <li><a href="http://www.wseas.org/conferences/2002/tenerife/mcbe"
target="_blank">3rd WSEAS
          Int. Conf. on <u>MATHEMATICS AND COMPUTERS IN BUSINESS AND ECONOMICS</u>
          (MCBE 2002)</a></li>
        </ul>
        <ul>
          <li><a href="http://www.wseas.org/conferences/2002/tenerife/icai"
target="_blank">2nd WSEAS
          Int. Conf. on <u>AUTOMATION AND INFORMATION</u> (ICAI 2002)</a></li>
        </ul>
        <p><br>
        <b>Astir Palace, Vouliagmeni, Athens, Greece, Dec. 29-31, 2002 (three
        conferences)</b> </p>
        <ul>
          <li><a href="http://www.wseas.org/conferences/2002/athens/mmactee"
target="_blank">4th
          WSEAS Int. Conf. on <u>MATHEMATICAL METHODS AND COMPUTATIONAL
          TECHNIQUES IN ELECTRICAL ENGINEERING</u> (MMACTEE 2002) </a></li>
        </ul>
        <ul>
          <li><a href="http://www.wseas.org/conferences/2002/athens/nolasc"
target="_blank">1st WSEAS
          Int. Conf. on <u>NON-LINEAR ANALYSIS, NON-LINEAR SYSTEMS AND CHAOS</u>
          (NOLASC 2002) </a></li>
        </ul>
        <ul>
          <li><a href="http://www.wseas.org/conferences/2002/athens/wamus"
target="_blank">2nd WSEAS
          Int. Conf. on <u>WAVELET ANALYSIS AND MULTIRATE SYSTEMS</u> (WAMUS
          2002) </a></li>
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        <big><b>2003</b></big> <br>
        <br>
        <b>Lanzarote, Canary Islands, Spain, February 13-15, 2003 (three
        conferences)</b> </p>
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        <ul>
          <li><a href="http://www.wseas.org/conferences/2003/canaries/nna"
target="_blank">4th WSEAS
          Int.Conf. on <u>NEURAL NETWORK AND APPLICATIONS</u> (NNA '03)</a> </li>
        </ul>
        <ul>
          <li><a href="http://www.wseas.org/conferences/2003/canaries/fsfs"
target="_blank">4th WSEAS
          Int.Conf. on <u>FUZZY SETS AND FUZZY SYSTEMS</u> (FSFS '03)</a> </li>
        </ul>
        <ul>
          <li><a href="http://www.wseas.org/conferences/2003/canaries/ec"
target="_blank">4th WSEAS
          Int.Conf. on <u>EVOLUTIONARY COMPUTATION</u> (EC '03)</a></li>
        </ul>
        <p><br>
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 </p>
        <p><b>Hyatt Regency Cancun Hotel, Cancun, Mexico, May 12-15, 2003 (five
        conferences)</b> </p>
        <ul>
          <li><a href="http://www.wseas.org/conferences/2003/cancun/imccas"
target="_blank">3rd WSEAS
          Int. Conf. on <u>INSTRUMENTATION, MEASUREMENT, CONTROL, CIRCUITS AND
          SYSTEMS</u> (IMCCAS '03)</a></li>
        </ul>
        <ul>
          <li><a href="http://www.wseas.org/conferences/2003/cancun/isa"
target="_blank">3rd WSEAS
          Int. Conf. on <u>INFORMATION SCIENCE AND APPLICATIONS</u> (ISA
'03)</a></li>
        </ul>
        <ul>
          <li><a href="http://www.wseas.org/conferences/2003/cancun/sosm"
target="_blank">3rd WSEAS
          Int. Conf. on <u>SOFT COMPUTING, OPTIMIZATION, SIMULATION &amp;amp;
          MANUFACTURING SYSTEMS</u> (SOSM '03)</a></li>
        </ul>
        <ul>
          <li><a href="http://www.wseas.org/conferences/2003/cancun/mcp"
target="_blank">5th WSEAS
          Int. Conf. on <u>MATHEMATICS AND COMPUTERS IN PHYSICS</u> (MCP
'03)</a></li>
        </ul>
        <ul>
          <li><a href="http://www.wseas.org/conferences/2003/cancun/mem"
target="_blank">5th WSEAS
          Int. Conf. on <u>MECHANICAL ENGINEERING MULTICONFERENCE</u> (MEM
'03)</a></li>
        </ul>
        <p><br>
        <b>Andalucia Beach, Chiclana, Cadiz, Spain, June 12-16, 2003 </b></p>
        <ul>
          <li><a href="http://www.wseas.org/conferences/2003/spain/ispra"
target="_blank">2003 WSEAS
          Int.Conf. on <u>SIGNAL PROCESSING, ROBOTICS AND AUTOMATION</u> (ISPRA
          '03) </a></li>
        </ul>
        <ul>
          <li><a href="http://www.wseas.org/conferences/2003/spain/imars"
target="_blank">2003 WSEAS
          Int.Conf. on <u>MICROWAVES, ANTENNAS AND RADAR SYSTEMS</u> (IMARS
'03)</a></li>
        </ul>
        <ul>
          <li><a href="http://www.wseas.org/conferences/2003/spain/iehs"
target="_blank">2003 WSEAS
          Int.Conf. on <u>ELECTRONICS AND HARDWARE SYSTEMS</u> (IEHS'03)</a></li>
        </ul>
        <p><br>
        <b>Corfu Island, Greece, June 25-28, 2003 (four conferences)</b> </p>
        <ul>
          <li><a href="http://www.wseas.org/conferences/2003/corfu/icc"
target="_blank">7th WSEAS
          Int.Conf. on <u>CIRCUITS</u></a></li>
        </ul>
        <ul>
          <li><a href="http://www.wseas.org/conferences/2003/corfu/ics"
target="_blank">7th WSEAS
          Int.Conf. on <u>SYSTEMS</u></a></li>
        </ul>
        <ul>
          <li><a href="http://www.wseas.org/conferences/2003/corfu/iccom"
target="_blank">7th WSEAS
          Int.Conf. on <u>COMMUNICATIONS</u></a></li>
        </ul>
        <ul>
          <li><a href="http://www.wseas.org/conferences/2003/corfu/iccomp"
target="_blank">7th WSEAS
          Int.Conf. on <u>COMPUTERS</u></a></li>
        </ul>
        <p><br>
        <b>Rhodes Island, Greece, July 28-30, 2003 (three conferences)</b>
        <font color="#0000ff"></p>
        <ul>
          <li><a href="http://www.wseas.org/conferences/2003/rhodes/aic"
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target="_blank">3rd WSEAS
          Int. Conf. on <u>APPLIED INFORMATICS AND COMMUNICATIONS</u>(AIC'03)</a>
          </li>
        </ul>
        <ul>
          <li><a href="http://www.wseas.org/conferences/2003/rhodes/signal"
target="_blank">3rd WSEAS
          Int. Conf. on <u>SIGNAL PROCESSING, COMPUTATIONAL GEOMETRY &amp;
          ARTIFICIAL VISION</u>(ISCGAV'03)</a></li>
        </ul>
        <ul>
          <li><a href="http://www.wseas.org/conferences/2003/rhodes/istasc"
target="_blank">3rd WSEAS
          Int. Conf. on <u>SYSTEMS THEORY AND SCIENTIFIC
COMPUTATION</u>(ISTASC'03)</a>
          (former: Scientific Computation and Soft Computing) </li>
        </ul>
        </font>
        <p><br>
        <b>Barcelona, Spain, September 1-3, 2003</b> <font color="#0000ff"></p>
        <ul>
          <li>4th WSEAS Int. Conf. on <u>LINEAR ALGEBRA, NUMERICAL ANALYSIS AND
          ENGINEERING APPLICATIONS</u> (LANEA 2003) </li>
        </ul>
        <ul>
          <li>4th WSEAS Int. Conf. on <u>DIFFERENTIAL EQUATIONS, OPTIMIZATION,
          COMPUTER MATHEMATICS AND ENGINEERING APPLICATIONS</u> (DOCEA 2003)
          </li>
        </ul>
        <ul>
          <li>4th WSEAS Int. Conf. on <u>PROBABILITY, STATISTICS, OPERATIONAL
          RESEARCH AND ENGINEERING APPLICATIONS</u> (PSOREA 2003) </li>
        </ul>
        <ul>
          <li>4th WSEAS Int. Conf. on <u>ALGORITHMS THEORY, DISCRETE
          MATHEMATICS, SYSTEMS AND CONTROL</u> (ADISC 2003) </li>
        </ul>
        </font>
        <p><br>
        <b>Chalkidiki, Greece, September 25-28, 2003 (four conferences) </b>
        <font color="#0000ff"></p>
        <ul>
          <li>2nd WSEAS Int. Conf. on <u>SIMULATION, MODELLING AND OPTIMIZATION</u>
          (ICOSMO 2002) </li>
        </ul>
        <ul>
          <li>2nd WSEAS Int. Conf. on <u>SIGNAL, SPEECH AND IMAGE PROCESSING</u>
          (ICOSSIP 2002) </li>
        </ul>
        <ul>
          <li>2nd WSEAS Int. Conf. on <u>MULTIMEDIA, INTERNET AND VIDEO
          TECHNOLOGIES</u> (ICOMIV 2002) </li>
        </ul>
        <ul>
          <li>2nd WSEAS Int. Conf. on <u>ROBOTICS, DISTANCE LEARNING AND
          INTELLIGENT COMMUNICATION SYSTEMS</u> (ICRODIC 2002) </li>
        </ul>
        </font>
        <p><br>
        <br>
        <b>Rio de Janeiro, Brazil, October 14-17, 2003 </b><br>
        (same conferences as in 2002)<br>
        <br>
        <b>Rio de Janeiro, Brazil, October 21-24, 2003</b> <br>
        (same conferences as in 2002)<br>
        <br>
        <b>Singapore, December 9-12, 2003</b><br>
        (same conferences as in 2002)<br>
        <br>
        <br>
        <br>
        <b>Udine, Italy, December 19-21, 2003</b> <font color="#0000ff"></p>
        <ul>
          <li>4th WSEAS Int. Conf. on <u>ACOUSTICS, MUSIC, SPEECH AND LANGUAGE
          PROCESSING</u> (former Acoustics and Music: Theory and Applications)
          (ICAMSL 2003) </li>
        </ul>
        <ul>
          <li>4th WSEAS Int. Conf. on <u>MATHEMATICS AND COMPUTERS IN BIOLOGY
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          AND CHEMISTRY</u> (MCBC 2003) </li>
        </ul>
        <ul>
          <li>4th WSEAS Int. Conf. on <u>MATHEMATICS AND COMPUTERS IN BUSINESS
          AND ECONOMICS</u> (MCBE 2003) </li>
        </ul>
        <ul>
          <li>3rd WSEAS Int. Conf. on <u>AUTOMATION AND INFORMATION</u> (ICAI
          2003) </li>
        </ul>
        </font>
        <p><br>
        <b>Astir Palace, Vouliagmeni, Athens, Greece, December 29-31, 2003</b>
        <font color="#0000ff"></p>
        <ul>
          <li>5th WSEAS Int. Conf. on <u>MATHEMATICAL METHODS AND COMPUTATIONAL
          TECHNIQUES IN ELECTRICAL ENGINEERING (MMACTEE 2003)</u> </li>
        </ul>
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<p><b><br>
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the email account(s) that you want to unsubscribe in the Body of your message.<br>
 </b></p>

</body>
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```

## 53. [ss] Re: ss digest: September 19, 2002

```
From: Walt DuBose <dubose@texas.net>
Date: Sat, 21 Sep 2002 08:37:32 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-99819-2002.09.21-09.17.40--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain
```

```
Hi Jim,

I really appreciate the comments and I am going to try and make
comments and
ask more questions as I go along.

I am also saving the comments in a special mailbox.

Let me make a general comment or two.

While I would like to use 802.11b on 900 MHz; because, it easily
supports
data transmission PLUS VoIP...which I think is something hams
need and would
be interested in.

But, if this isn't practical, we can go another route.  My main
concern is
using some commercial/recognized standard that the "rest of the
IT world"
can relate to.  One reason for this is to interest non-hams in
this use
of technology so we can get new blood (especially the younger
generation)
into ham radio.  Another reason is to have something that
emergency managers
can relate to and be very receptive to its use.

Jim Ussailis wrote:
>
> I can see a problem using a chipset designed for the 2.45 band at 900
> MHz. Both FH and DSSS signals generate spectral sidelobes. In the 2.45
> band there is specrum space for the sidelobes without the signal going
```

> out of the band. This space isn't available in the 900 MHz band.
>

That is a special concern.

As far as I know, most of the 900 MHz SS is Part 15 DSSS and
is  wireless telephones.  I have one in my house and I certainly
don't want to mess it up so anything I do will not mess up my
wireless phone or the XYL (WB5WXY) will be on my case big time.
Hi Hi.

You comments are well founded and we should be concerned about
this.

> Someone needs to research the sideband attenuation requirements for the
> amateur service.
>

One of the URLs that Steve L. mentioned leads you to a URL that
has
the formulas for calculating this.

> Jim W1EQO
>
> PS FYI. The math that describes generation of these spectral sidelobes is
> exactly the same as that which describes generation of antenna sidelobes.
>

73 all,
de Walt/K5YFW

> On Fri, 20 Sep 2002, TAPR Spread Spectrum Special Interest Group digest wrote:
>
> > TAPR Spread Spectrum Special Interest Group Digest for Thursday, September 19, 2002.
> >
> > 1. 900 MHz 802.11b (Thinking Out Loud)
> > 2. Re: 900 MHz 802.11b (Thinking Out Loud)
> > 3. Re: 900 MHz 802.11b (Thinking Out Loud)
> > 4. Re: 900 MHz 802.11b (Thinking Out Loud)
<LYR30627-99572-2002.09.19-16.54.13--spamdump#optonline.net@lists.tapr.org>
> > 5. Re: 900 MHz 802.11b
> > 6. Re: 900 MHz 802.11b (Thinking Out Loud)
> > 7. Re: 900 MHz 802.11b (Thinking Out Loud)
> > 8. Re: 900 MHz 802.11b <LYR30627-99597-2002.09.19-19.11.40--spamdump#optonline.net@lists.tapr.org>
> >
> > ----------------------------------------------------------------------
> >
> > Subject: 900 MHz 802.11b (Thinking Out Loud)
> > From: dubose@texas.net
> > Date: Thu, 19 Sep 2002 15:01:34 US/Central
> > X-Message-Number: 1
> >
> > Apparently there is NO standard on 900 MHz for unlicensed use, so whatever is
> > done by hams is not bucking an existing standard.
> >
> > It would seem simple to take a basic 802.11b chip and run it on a 900 MHz RF
> > board.  Well, maybe not simple; but, it would not be like starting from
> > scratch.
> >
> > There are some 900 MHz RF part availabe and I understand that there are full
> > chipsets out that have 802.11b on them?  Hopefully they are separate from the
> > RF portion of 2.4 GHz.
> >
> > The more I read, I can see why TAPR wanted to go to FHSS; but, I think that the
> > understanding of 802.11b makes it attractive from a "driver" standpoint for
> > hams using MS, Mac, and Linux for hams as well as non-hams who might want to
> > get into ham radio because of this "new" use of technology.
> >
> > I have noted that 802.11b on 2.4 GHz has a 22 MHz channel width and that
> > channels are 5 MHz apart.  Using this on 900 MHz, starting at  the bottom of
> > the band you would go from 902-924 Mhz but you could NOT have a second channel.
> >
> > However, if you could compress the channel width to 21 MHz, you could have one
> > channel from 902-923 MHz and another channel from 907-928 Mhz.  I don't know
> > then if a standard 802.11b chipset would work.
> >
> > I guess the another question is are their chipsets out that do FHSS?   And,
> > could you marry one of those chipsets with a 900 MHz transmitter?
> >
> > As you can tell, I'm not interested in creating a new "wheel", just using what

> > is already available (especially protocol wise) and making a usable product.
> >
> > Walt/K5YFW
> >
> >
> > ---------------------------------------------------------------------
> >
> > Subject: Re: 900 MHz 802.11b (Thinking Out Loud)
> > From: "Hugh Shane" <hughs@tetonvalley.net>
> > Date: Thu, 19 Sep 2002 14:48:33 -0600
> > X-Message-Number: 2
> >
> > >
> > > It would seem simple to take a basic 802.11b chip and run it on a 900 MHz
> > RF
> > > board.  Well, maybe not simple; but, it would not be like starting from
> > > scratch.
> > >
> > > There are some 900 MHz RF part availabe and I understand that there are
> > full
> > > chipsets out that have 802.11b on them?  Hopefully they are separate from
> > the
> > > RF portion of 2.4 GHz.
> > >
> >
> > Take a look at Intersil's chip set:
> > http://www.intersil.com/design/prism/ser-p25-11mbps.asp
> >
> > This chipset clearly separates the RF/IF parts from the MAC/baseband parts.
> > I need
> > to take a closer look at these, and some other vendors', parts. But it seems
> > like it could
> > be done without adding too many more gray hairs.
> >
> >     Hugh
> >     N7UAX
> >
> >
> >
> >
> > ---------------------------------------------------------------------
> >
> > Subject: Re: 900 MHz 802.11b (Thinking Out Loud)
> > From: dubose@texas.net
> > Date: Thu, 19 Sep 2002 16:12:42 US/Central
> > X-Message-Number: 3
> >
> > > >
> > > > It would seem simple to take a basic 802.11b chip and run it on a 900 MHz
> > > RF
> > > > board.  Well, maybe not simple; but, it would not be like starting from
> > > > scratch.
> > > >
> > > > There are some 900 MHz RF part availabe and I understand that there are
> > > full
> > > > chipsets out that have 802.11b on them?  Hopefully they are separate from
> > > the
> > > > RF portion of 2.4 GHz.
> > > >
> > >
> > > Take a look at Intersil's chip set:
> > > http://www.intersil.com/design/prism/ser-p25-11mbps.asp
> > >
> > > This chipset clearly separates the RF/IF parts from the MAC/baseband parts.
> > > I need
> > > to take a closer look at these, and some other vendors', parts. But it seems
> > > like it could
> > > be done without adding too many more gray hairs.
> > >     Hugh
> > >     N7UAX
> >
> > This a great find.
> >
> > Just a quick look is has got my interest up.  It sure does look like you could
> > hack out the RF unit and add your own RF unit for 900 MHz.  Of course you would
> > have to be careful not to have your RF unit going outside the ham band.
> >
> > I am also impressed that it appears that you can use USB PCMCIA and PCI as an
> > interface...one card does it all.

> >
> > I will have to look up how far you can run a USB cable...maybe you could put
> > the card up on high on your antenna mast so you would have only a short run of
> > coax.
> >
> > Walt/K5YFW
> >
> >
> > ---------------------------------------------------------------------
> >
> > Subject: Re: 900 MHz 802.11b (Thinking Out Loud)
<LYR30627-99572-2002.09.19-16.54.13--spamdump#optonline.net@lists.tapr.org>
> > From: spamdump <spamdump@optonline.net>
> > Date: Thu, 19 Sep 2002 19:10:19 -0400
> > X-Message-Number: 4
> >
> >
> > Hi
> >
> > After reading this thread and with my very recent Intersil prism experience,
> > I'd say to find another way. Intersil is not likely to sell one or two chips
> > to anyone. (Although you could buy PRISM based NICS and hack them.) They are
> > only interested in accounts of 1e6 parts per year. I recently wanted to
> > build 5K radios. Their answer was that they would sell me the chips but that
> > I would get no support. With that as their position, I had to tell my
> > customer to do it another way. They did.
> >
> > If you want to work in 900 MHz, go find a bunch of old NCR (then ATnT, then
> > Lucent, then Orinoco, then Agere, now Proxim) Wavelan ISA boards circa 1990.
> > They work really well. You can only get drivers that were written for Win95
> > but happen to work with Win98, possibly ME, definately not 2000 or XP. No
> > support. They do need ISA slots. My first wlan was done with these boards
> > and I only took it down 2 months ago. On the up side, they are very discrete
> > and consequently very modifiable.
> >
> > Regards
> > Ken
> >
> >
> > -----Original Message-----
> > From: bounce-ss-30627@lists.tapr.org
> > [mailto:bounce-ss-30627@lists.tapr.org]On Behalf Of dubose@texas.net
> > Sent: Thursday, September 19, 2002 12:13 PM
> > To: TAPR Spread Spectrum Special Interest Group
> > Subject: [ss] Re: 900 MHz 802.11b (Thinking Out Loud)
> >
> >
> > > >
> > > > It would seem simple to take a basic 802.11b chip and run it on a 900
> > MHz
> > > > RF
> > > > board.  Well, maybe not simple; but, it would not be like starting from
> > > > scratch.
> > > >
> > > > There are some 900 MHz RF part availabe and I understand that there are
> > > full
> > > > chipsets out that have 802.11b on them?  Hopefully they are separate
> > from
> > > > the
> > > > RF portion of 2.4 GHz.
> > > >
> > >
> > > Take a look at Intersil's chip set:
> > > http://www.intersil.com/design/prism/ser-p25-11mbps.asp
> > >
> > > This chipset clearly separates the RF/IF parts from the MAC/baseband
> > parts.
> > > I need
> > > to take a closer look at these, and some other vendors', parts. But it
> > seems
> > > like it could
> > > be done without adding too many more gray hairs.
> > >     Hugh
> > >     N7UAX
> >
> > This a great find.
> >
> > Just a quick look is has got my interest up.  It sure does look like you
> > could

> > hack out the RF unit and add your own RF unit for 900 MHz.  Of course you
> > would
> > have to be careful not to have your RF unit going outside the ham band.
> >
> > I am also impressed that it appears that you can use USB PCMCIA and PCI as
> > an
> > interface...one card does it all.
> >
> > I will have to look up how far you can run a USB cable...maybe you could put
> > the card up on high on your antenna mast so you would have only a short run
> > of
> > coax.
> >
> > Walt/K5YFW
> >
> >
> > ---
> > You are currently subscribed to ss as: spamdump@optonline.net
> > To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
> >
> >
> >
> >
> > ------------------------------------------------------------------------
> >
> > Subject: Re: 900 MHz 802.11b
> > From: "Marcelo Puhl" <mark@cpovo.net>
> > Date: Thu, 19 Sep 2002 20:30:24 -0300
> > X-Message-Number: 5
> >
> > On 19 Sep 2002 at 19:10, spamdump wrote:
> >
> > > If you want to work in 900 MHz, go find a bunch of old NCR (then ATnT, then
> > > Lucent, then Orinoco, then Agere, now Proxim) Wavelan ISA boards circa 1990.
> > > They work really well. You can only get drivers that were written for Win95
> > > but happen to work with Win98, possibly ME, definately not 2000 or XP. No
> > > support. They do need ISA slots. My first wlan was done with these boards
> > > and I only took it down 2 months ago. On the up side, they are very discrete
> > > and consequently very modifiable.
> > >
> >
> > Do you know a cheap source for those Wavelan boards?
> >
> > Thanks.
> >
> > ------
> > Marcelo Puhl
> > http://py3ss.cjb.net
> >
> >
> > ------------------------------------------------------------------------
> >
> > Subject: Re: 900 MHz 802.11b (Thinking Out Loud)
> > From: xlpitlum <multiplx@online.dct.com>
> > Date: Thu, 19 Sep 2002 18:30:11 -0500 (CDT)
> > X-Message-Number: 6
> >
> > > Apparently there is NO standard on 900 MHz for unlicensed use, so whatever is
> > > done by hams is not bucking an existing standard.
> > >
> > > It would seem simple to take a basic 802.11b chip and run it on a 900 MHz RF
> > > board.  Well, maybe not simple; but, it would not be like starting from
> > > scratch.
> > >
> > > There are some 900 MHz RF part availabe and I understand that there are full
> > > chipsets out that have 802.11b on them?  Hopefully they are separate from the
> > > RF portion of 2.4 GHz.
> > >
> > > The more I read, I can see why TAPR wanted to go to FHSS; but, I think that the
> > > understanding of 802.11b makes it attractive from a "driver" standpoint for
> > > hams using MS, Mac, and Linux for hams as well as non-hams who might want to
> > > get into ham radio because of this "new" use of technology.
> > >
> > > I have noted that 802.11b on 2.4 GHz has a 22 MHz channel width and that
> > > channels are 5 MHz apart.  Using this on 900 MHz, starting at  the bottom of
> > > the band you would go from 902-924 Mhz but you could NOT have a second channel.
> > >
> > > However, if you could compress the channel width to 21 MHz, you could have one
> > > channel from 902-923 MHz and another channel from 907-928 Mhz.  I don't know

> > > then if a standard 802.11b chipset would work.
> > >
> > > I guess the another question is are their chipsets out that do FHSS?  And,
> > > could you marry one of those chipsets with a 900 MHz transmitter?
> > >
> > > As you can tell, I'm not interested in creating a new "wheel", just using what
> > > is already available (especially protocol wise) and making a usable product.
> > >
> > > Walt/K5YFW
> >
> >  It's theoretically possible to do this.  I have some ideas for external
> >  transverters based around the Proxim Symphony/RangeLAN FHSS gear.  Their
> >  low TX/RX switching times and FSK modulation makes for ideal use of
> >  external high-power, cellular surplus RF power amplifiers.
> >
> >  Schematics / block diagrams are here:
> >
> >  2400 MHz to 900 MHz Transverter for Wireless LAN Devices
> >   http://www.qsl.net/n9zia/2400-to-900.html
> >
> >  2400 MHz to 1200 MHz Transverter for Wireless LAN Devices
> >   http://www.qsl.net/n9zia/trans/index.html
> >
> >  These ideas are experimental, and based around hardware I have readily
> >  available, hence the lame design.
> >
> >  Old Proxim Symphony 2.4 GHz bridges and cards sell for around $40.
> >
> >  802.11b DSSS isn't really ment for the demanding challenge which is
> >  the 900 MHz band.  The amount of in-band and outer-band interference is
> >  staggering.  It may be better to utilize the 1.2 GHz or even the 440 MHz
> >  bands.
> >
> >
> > ----------------------------------------------------------------------
> >
> > Subject: Re: 900 MHz 802.11b (Thinking Out Loud)
> > From: Tony Langdon <tlangdon@atctraining.com.au>
> > Date: Fri, 20 Sep 2002 10:20:34 +1000
> > X-Message-Number: 7
> >
> > >  802.11b DSSS isn't really ment for the demanding challenge which is
> > >  the 900 MHz band.  The amount of in-band and outer-band=20
> > > interference is
> > >  staggering.  It may be better to utilize the 1.2 GHz or even=20
> > > the 440 MHz
> > >  bands.
> >
> > 1200 and 440 MHz are also of interest to those outside the US.  1200 =
> > MHz is
> > especially interesting to me.
> >
> > ---
> > Outgoing mail ihas been scanned for Viruses
> > Checked by AVG anti-virus system (http://www.grisoft.com).
> > Version: 6.0.389 / Virus Database: 220 - Release Date: 16/09/2002
> > =20
> >
> > This correspondence is for the named person=92s use only. It may =
> > contain
> > confidential or legally privileged information or both. No =
> > confidentiality
> > or privilege is waived or lost by any mistransmission. If you receive =
> > this
> > correspondence in error, please immediately delete it from your system =
> > and
> > notify the sender. You must not disclose, copy or rely on any part of =
> > this
> > correspondence if you are not the intended recipient.
> >
> > Any opinions expressed in this message are those of the individual =
> > sender.
> >
> >
> > ----------------------------------------------------------------------
> >
> > Subject: Re: 900 MHz 802.11b
<LYR30627-99597-2002.09.19-19.11.40--spamdump#optonline.net@lists.tapr.org>
> > From: spamdump <spamdump@optonline.net>

> > Date: Thu, 19 Sep 2002 21:14:18 -0400
> > X-Message-Number: 8
> >
> > Marcelo,
> > Please send me a email at spamdump at optonline dot net.
> > Ken
> >
> >
> > -----Original Message-----
> > From: bounce-ss-30627@lists.tapr.org
> > [mailto:bounce-ss-30627@lists.tapr.org]On Behalf Of Marcelo Puhl
> > Sent: Thursday, September 19, 2002 7:30 PM
> > To: TAPR Spread Spectrum Special Interest Group
> > Subject: [ss] Re: 900 MHz 802.11b
> >
> >
> > On 19 Sep 2002 at 19:10, spamdump wrote:
> >
> > > If you want to work in 900 MHz, go find a bunch of old NCR (then ATnT,
> > then
> > > Lucent, then Orinoco, then Agere, now Proxim) Wavelan ISA boards circa
> > 1990.
> > > They work really well. You can only get drivers that were written for
> > Win95
> > > but happen to work with Win98, possibly ME, definately not 2000 or XP. No
> > > support. They do need ISA slots. My first wlan was done with these boards
> > > and I only took it down 2 months ago. On the up side, they are very
> > discrete
> > > and consequently very modifiable.
> > >
> >
> > Do you know a cheap source for those Wavelan boards?
> >
> > Thanks.
> >
> > ------
> > Marcelo Puhl
> > http://py3ss.cjb.net
> >
> >
> > ---
> > You are currently subscribed to ss as: spamdump@optonline.net
> > To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
> >
> >
> >
> >
> >
> >
> >
> > ---
> >
> > END OF DIGEST
> >
> > ---
> > You are currently subscribed to ss as: ussailis@shaysnet.com
> > To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
> >
> >
>
> ---
> You are currently subscribed to ss as: dubose@texas.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 54. [ss] Re: ss digest: September 19, 2002

From: Jeff King <jeff@aerodata.net>
Date: Sat, 21 Sep 2002 13:31:18 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-99832-2002.09.21-13.08.20--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Been scratching my head over this thread. A few comments before it dies on
the vine.

>While I would like to use 802.11b on 900 MHz;

Much easier to use 802.11b on 2.4 ghz! And if your not already doing it, I
suggest you try it first instead of putting a barrier to entry up (having to
roll the whole thing from scratch.... not a trival effort.)


>But, if this isn't practical, we can go another route.

If you want 900mhz, just use the old ncr/wavelan boards.... plenty of them
still around and they will do 1megabit on 900mhz DSSS. Drivers for windows
and Linux available. Transparent to data and VoIP works just fine on them. I
even have three extra ones I'd consider selling  ;-)

My point being it is more important to get on the air then to theorize how
things should be.... a valid long term goal mind you, but there is so much
you can do with modified Part 15 equipment already.

-Jeff



---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 55. [ss] Re: ss digest: September 19, 2002

From: Walt DuBose <dubose@texas.net>
Date: Sat, 21 Sep 2002 13:25:21 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-99839-2002.09.21-14.05.20--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Jeff King wrote:
>
> Been scratching my head over this thread. A few comments before it dies on
> the vine.
>
> >While I would like to use 802.11b on 900 MHz;
>
> Much easier to use 802.11b on 2.4 ghz! And if your not already doing it, I
> suggest you try it first instead of putting a barrier to entry up (having to
> roll the whole thing from scratch.... not a trival effort.)
>

        There are problems like going through trees if you can't put up
        an antenna higher than 30-35 ft which is a deed restriction in
        several areas..and the like.

        Also, its is easier to get a 900 MHz signal from the shack up a
tower
        than 2.4 GHz.  It would be nice to get a little more power
output on
        2.4 GHz than one watt.  Even 3-5 watts would be nice; but, there
are
        some safety considerations that are more apparent there than on
900
        MHz.

        Certainly the Proxin card could be hacked and a separate RF
module
        used.  But for a home project, 900 MHz is probably easier to
build.

        I certainly am not advocating rolling your own "card" for 900
MHz
        OR 2.4 GHz.

> >But, if this isn't practical, we can go another route.
>
> If you want 900mhz, just use the old ncr/wavelan boards.... plenty of them
> still around and they will do 1megabit on 900mhz DSSS. Drivers for windows
> and Linux available. Transparent to data and VoIP works just fine on them. I
> even have three extra ones I'd consider selling  ;-)
>

        I think that we want to stay from using "surplus" equipment.
VHF FM
        was around for 15 years using surplus commercial 2-way equipment
before

ham VHF FM equipment became available. Then it really took
off. I
would like to prevent this scenario.

> My point being it is more important to get on the air then to theorize how
> things should be.... a valid long term goal mind you, but there is so much
> you can do with modified Part 15 equipment already.
>
I think it IS important to get on the air; but, for any standard
protocol to be accepted and used, we need to start with it.
There
is actually quite a bit of 900 and 2.4 ham activity...its just
not
advertised and not networked. We can put what protocol to use/
development into a committee and it will die there 20 years from
now. But if we take an existing generally accepted protocol and
"deploy" it on the ham bands, we can further the communications
skills that compete with what is offered in the non-ham world at
the present time.

Walt/K5YFW

> -Jeff
>
> ---
> You are currently subscribed to ss as: dubose@texas.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 56. [ss] Re: 900 MHz 802.11b (Thinking Out Loud)

From: Walt DuBose <dubose@texas.net>
Date: Sat, 21 Sep 2002 13:46:44 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-99840-2002.09.21-14.26.42--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thanks Hugh...this is a nice find for someone wanting/needing
parts to roll their own card.

Walt/K5YFW

Hugh Shane wrote:
>
> >
> > It would seem simple to take a basic 802.11b chip and run it on a 900 MHz
> RF
> > board. Well, maybe not simple; but, it would not be like starting from
> > scratch.
> >
> > There are some 900 MHz RF part availabe and I understand that there are
> full
> > chipsets out that have 802.11b on them? Hopefully they are separate from
> the
> > RF portion of 2.4 GHz.
> >
>
> Take a look at Intersil's chip set:
> http://www.intersil.com/design/prism/ser-p25-11mbps.asp
>
> This chipset clearly separates the RF/IF parts from the MAC/baseband parts.
> I need
> to take a closer look at these, and some other vendors', parts. But it seems
> like it could
> be done without adding too many more gray hairs.
>
>     Hugh
>     N7UAX
>
> ---
> You are currently subscribed to ss as: dubose@texas.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 57. [ss] Re: 900 MHz 802.11b (Thinking Out Loud) <LYR30627-99572-2002.09.19-16.54.13--spamdump#optonline.net@lists.tapr.org>

From: Walt DuBose <dubose@texas.net>
Date: Sat, 21 Sep 2002 13:51:26 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-99843-2002.09.21-14.31.25--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

spamdump wrote:
>
> Hi
>
> After reading this thread and with my very recent Intersil prism experience,
> I'd say to find another way. Intersil is not likely to sell one or two chips
> to anyone. (Although you could buy PRISM based NICS and hack them.) They are
> only interested in accounts of 1e6 parts per year. I recently wanted to
> build 5K radios. Their answer was that they would sell me the chips but that
> I would get no support. With that as their position, I had to tell my
> customer to do it another way. They did.

        You really can't blame them for not wanting to deal with small
quantities.

        But what I see is their capability to perhaps build, or someone
to build
        a 2.4 GHz 802.11b card for the hambands that has more power
output than
        one watt.  Perhaps one of the current suppliers of ham gear
could get them
        to do that.
>
> If you want to work in 900 MHz, go find a bunch of old NCR (then ATnT, then
> Lucent, then Orinoco, then Agere, now Proxim) Wavelan ISA boards circa 1990.
> They work really well. You can only get drivers that were written for Win95
> but happen to work with Win98, possibly ME, definately not 2000 or XP. No
> support. They do need ISA slots. My first wlan was done with these boards
> and I only took it down 2 months ago. On the up side, they are very discrete
> and consequently very modifiable.
>

        Again, I'm not sure we want to go the "surplus" route like we
did in
        the early days of VHF FM.

        73,

        Walt/K5YFW

> Regards
> Ken
>
> -----Original Message-----
> From: bounce-ss-30627@lists.tapr.org
> [mailto:bounce-ss-30627@lists.tapr.org]On Behalf Of dubose@texas.net
> Sent: Thursday, September 19, 2002 12:13 PM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: 900 MHz 802.11b (Thinking Out Loud)
>
> > >
> > > It would seem simple to take a basic 802.11b chip and run it on a 900
> MHz
> > RF
> > > board.  Well, maybe not simple; but, it would not be like starting from
> > > scratch.
> > >
> > > There are some 900 MHz RF part availabe and I understand that there are
> > full
> > > chipsets out that have 802.11b on them?  Hopefully they are separate
> from
> > the
> > > RF portion of 2.4 GHz.
> > >
> >
> > Take a look at Intersil's chip set:
> > http://www.intersil.com/design/prism/ser-p25-11mbps.asp
> >
> > This chipset clearly separates the RF/IF parts from the MAC/baseband
> parts.

> > I need
> > to take a closer look at these, and some other vendors', parts. But it
> seems
> > like it could
> > be done without adding too many more gray hairs.
> >     Hugh
> >     N7UAX
>
> This a great find.
>
> Just a quick look is has got my interest up.  It sure does look like you
> could
> hack out the RF unit and add your own RF unit for 900 MHz.  Of course you
> would
> have to be careful not to have your RF unit going outside the ham band.
>
> I am also impressed that it appears that you can use USB PCMCIA and PCI as
> an
> interface...one card does it all.
>
> I will have to look up how far you can run a USB cable...maybe you could put
> the card up on high on your antenna mast so you would have only a short run
> of
> coax.
>
> Walt/K5YFW
>
> ---
> You are currently subscribed to ss as: spamdump@optonline.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
> ---
> You are currently subscribed to ss as: dubose@texas.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 58. [ss] Re: 900 MHz 802.11b (Thinking Out Loud)

From: Walt DuBose <dubose@texas.net>
Date: Sat, 21 Sep 2002 13:54:02 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-99844-2002.09.21-14.34.06--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

xlpitlum wrote:
>
>  802.11b DSSS isn't really ment for the demanding challenge which is
>  the 900 MHz band.  The amount of in-band and outer-band interference is
>  staggering.  It may be better to utilize the 1.2 GHz or even the 440 MHz
>  bands.
>

        I think the ARRL HSMM working group is also thinking along this
line...
        at least for 1.2 GHz.   -- k5yfw

xlpitlum wrote:
>
> > Apparently there is NO standard on 900 MHz for unlicensed use, so whatever is
> > done by hams is not bucking an existing standard.
> >
> > It would seem simple to take a basic 802.11b chip and run it on a 900 MHz RF
> > board.  Well, maybe not simple; but, it would not be like starting from
> > scratch.
> >
> > There are some 900 MHz RF part availabe and I understand that there are full
> > chipsets out that have 802.11b on them?  Hopefully they are separate from the
> > RF portion of 2.4 GHz.
> >
> > The more I read, I can see why TAPR wanted to go to FHSS; but, I think that the
> > understanding of 802.11b makes it attractive from a "driver" standpoint for
> > hams using MS, Mac, and Linux for hams as well as non-hams who might want to
> > get into ham radio because of this "new" use of technology.
> >
> > I have noted that 802.11b on 2.4 GHz has a 22 MHz channel width and that
> > channels are 5 MHz apart.  Using this on 900 MHz, starting at  the bottom of
> > the band you would go from 902-924 Mhz but you could NOT have a second channel.

> >
> > However, if you could compress the channel width to 21 MHz, you could have one
> > channel from 902-923 MHz and another channel from 907-928 Mhz.  I don't know
> > then if a standard 802.11b chipset would work.
> >
> > I guess the another question is are their chipsets out that do FHSS?   And,
> > could you marry one of those chipsets with a 900 MHz transmitter?
> >
> > As you can tell, I'm not interested in creating a new "wheel", just using what
> > is already available (especially protocol wise) and making a usable product.
> >
> > Walt/K5YFW
>
>  It's theoretically possible to do this.  I have some ideas for external
>  transverters based around the Proxim Symphony/RangeLAN FHSS gear.  Their
>  low TX/RX switching times and FSK modulation makes for ideal use of
>  external high-power, cellular surplus RF power amplifiers.
>
>  Schematics / block diagrams are here:
>
>  2400 MHz to 900 MHz Transverter for Wireless LAN Devices
>   http://www.qsl.net/n9zia/2400-to-900.html
>
>  2400 MHz to 1200 MHz Transverter for Wireless LAN Devices
>   http://www.qsl.net/n9zia/trans/index.html
>
>  These ideas are experimental, and based around hardware I have readily
>  available, hence the lame design.
>
>  Old Proxim Symphony 2.4 GHz bridges and cards sell for around $40.
>
>  802.11b DSSS isn't really ment for the demanding challenge which is
>  the 900 MHz band.  The amount of in-band and outer-band interference is
>  staggering.  It may be better to utilize the 1.2 GHz or even the 440 MHz
>  bands.
>
> ---
> You are currently subscribed to ss as: dubose@texas.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 59. [ss] Wavelan 915 MHz range?

From: "Marcelo Puhl" <mark@cpovo.net>
Date: Sat, 21 Sep 2002 16:52:55 -0300
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-99847-2002.09.21-15.33.42--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

What will be the expected range using external antennas
with those 915 MHz Wavelan 250 mW cards?

Anyone have experience with that?

Thanks.

--------------------
Marcelo Puhl
http://py3ss.cjb.net
--------------------

---
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## 60. [ss] Re: 900 MHz 802.11b (Thinking Out Loud)

From: "Eric S. Johansson" <esj@harvee.billerica.ma.us>
Date: Sat, 21 Sep 2002 15:54:09 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-99849-2002.09.21-15.35.42--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

xlpitlum wrote:
>  802.11b DSSS isn't really ment for the demanding challenge which is
>  the 900 MHz band.  The amount of in-band and outer-band interference is

> staggering. It may be better to utilize the 1.2 GHz or even the 440 MHz
> bands.

try dropping the data rate to 1mbs and increasing process gain. We'll
probably consume only slightly less bandwidth but we would gain in
interference resistance.

--- eric

---
You are currently subscribed to ss as: lyris.ss@tapr.org
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## 61. [ss] Re: Wavelan 915 MHz range?

From: Brett Glass <brett@lariat.org>
Date: Sat, 21 Sep 2002 14:55:58 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-99857-2002.09.21-16.37.38--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 01:52 PM 9/21/2002, Marcelo Puhl wrote:

>What will be the expected range using external antennas
>with those 915 MHz Wavelan 250 mW cards?

It depends entirely upon the RF environment in your area.
The 900 MHz band is massively overlicensed, with far too many
overlapping uses (including paging, vehicle tracking, medical
equipment, unlicensed LANs, cordless phones, and amateur radio).
The Ricochet network, which blankets some cities, was turned off
for a bit but was bought for peanuts and is now coming back online.
It completely ruins the band for any other use.

In short, your signal could go for two miles or two blocks.

Yet another example of Fox Charlie Charlie's blundering mismanagement
of spectrum (sigh).

--Brett

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 62. [ss] Re: 900 MHz 802.11b (Thinking Out Loud)

From: xlpitlum <multiplx@online.dct.com>
Date: Sat, 21 Sep 2002 17:49:54 -0500 (CDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-99861-2002.09.21-18.31.22--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> try dropping the data rate to 1mbs and increasing process gain. We'll
> probably consume only slightly less bandwidth but we would gain in
> interference resistance.
>

The IEEE 802.11 complementary spreading codes have a code length of 8
and a chipping rate of 11 Mchips/s. The 8 complex chips comprise a
single symbol. By making the symbol rate 1.375 Msymbols/s the 11 Mbps
CCK waveform ends up occupying the same approximate bandwidth as that for
the 2 Mbps QPSK waveform.

Also, we'd need to avoid narrow bandwidth, non-frequency agile systems
as they are more interference prone.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 63. [ss] Re: Wavelan 915 MHz range?

From: xlpitlum <multiplx@online.dct.com>
Date: Sat, 21 Sep 2002 18:01:55 -0500 (CDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>

Message-ID: <LYR6751-99862-2002.09.21-18.43.23--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>
> What will be the expected range using external antennas
> with those 915 MHz Wavelan 250 mW cards?
>

  Range depends on the local interference.  If there is a 900 MHz pager
  or cellular site in your antenna's beamwidth, consider your link useless.

  Good line-of-sight, no interference operations have pushed these cards
  out to 20 miles with high gain yagis.

  More information, including pics and external power amplifier designs:
    http://www.qsl.net/n9zia/wireless/appendixE.html

  Note: increasing RF output power isn't technically the right way to
  overcome interference, it's just really fun.  Also, you can substitute
  Hittite HMC154 MMIC RF switches for the MD003 and MCL switch you'll
  see in the schematics.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 64. [ss] Re: Wavelan 915 MHz range?

From: Jeff King <jeff@aerodata.net>
Date: Sat, 21 Sep 2002 22:51:14 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-99875-2002.09.21-22.28.12--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Sat, 21 Sep 2002 16:52:55 -0300, Marcelo Puhl wrote:
>
>What will be the expected range using external antennas
>with those 915 MHz Wavelan 250 mW cards?

I've had them unreliable at a 1/4mile and rock solid at 12 miles. Depends on
the link engineering as well as local interference issues.

-Jeff



---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 65. [ss] Re: ss digest: September 19, 2002

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Mon, 23 Sep 2002 08:13:58 +1000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-99971-2002.09.22-17.55.33--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>       Also, its is easier to get a 900 MHz signal from the shack up a
> tower
>       than 2.4 GHz.  It would be nice to get a little more power

The wireless LAN groups have solved this little problem for lower powered
applications.  Do a Google search on "Power over Ethernet".  For higher
power, keep the business end up the tower and run a heavy DC cable. :)

As for the rest of the discussion, I'd personally prefer to see effort go
into making the 2.4 GHz gear work on other bands such as 1.2 GHz, or the
higher bands.  900 MHz is not an amateur band in these parts (and even if it
was, there's no way we could get enough band space to run 802.11b due to GSM
phones that eat into the bottom part of the ISM band).

---
Outgoing mail ihas been scanned for Viruses
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.389 / Virus Database: 220 - Release Date: 16/09/2002

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Any opinions expressed in this message are those of the individual sender.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 66. [ss] Re: ss digest: September 19, 2002

From: xlpitlum <multiplx@online.dct.com>
Date: Mon, 23 Sep 2002 02:46:47 -0500 (CDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-100054-2002.09.23-03.28.20--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> >     Also, its is easier to get a 900 MHz signal from the shack up a
> > tower
> >     than 2.4 GHz.  It would be nice to get a little more power
>
> The wireless LAN groups have solved this little problem for lower powered
> applications.  Do a Google search on "Power over Ethernet".  For higher
> power, keep the business end up the tower and run a heavy DC cable. :)
>
> As for the rest of the discussion, I'd personally prefer to see effort go
> into making the 2.4 GHz gear work on other bands such as 1.2 GHz, or the
> higher bands.  900 MHz is not an amateur band in these parts (and even if it
> was, there's no way we could get enough band space to run 802.11b due to GSM
> phones that eat into the bottom part of the ISM band).
>

  An ideal, theoretical, setup would be using stock 802.11b hardware
  connected to an external downconverter to convert the 2.4 GHz band
  down to a 70 MHz IF.  Then use cheap 75-ohm coax (RG-6 or even RG-58)
  to connect up to a tower/antenna mounted upconverter and amplifier combo.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 67. Guaranteed Returns On Your Investment

From: "Sales" <T.Thompson@bureau.ucc.ie>
Date: Mon, 23 Sep 2002 08:32:19 -1900
To: <T.Thompson@bureau.ucc.ie>
Message-ID: <0000284a2314$000017eb$0000449d@integris.se>
Rendered body type: text/html

Secured Investements

Earn 15%-300% Interest On Your Money

GUARANTEED BY THE GOVERNMENT!

Government Secured Tax Cerificates Provide:

The highest guaranteed interest returns compared to any other investment.

A return up to 100 times your money backed by government secured property.

Security in your investment that the stock market cannot compare to.

Real estate for pennies on the dollar!

America's largest single source
of information/education for the government tax industry. Celebrating over
12 years of providing quality, leading edge education for the serious entrepreneur & investor.

Receive your
FREE video of "INSIDER SECRETS OF INVESTING
IN GOVERNMENT SECURED TAX CERTIFICATES."

(Over 90 min. of inside strategies, a $3995 value)

Fill out the no obligation form below for more information.

Required Input Field*

Name
*

State
*

Day Phone
*

Night Phone

Best time to contact

Morning Afternoon
Evening

E-mail Address
*

Objective

Secured Investments Business Opp
New CareerAll of the Above

*All tax liens and deeds directly support local
fire departments, police departments, schools, roads, and hospitals. Thank you for your interest and
support.

To be removed, please
click
here <http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/3D"mailto:remove@b2
b-mail.net?subject=Remove">.

## 68. [ss] Re: 900 MHz 802.11b (Thinking Out Loud)

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Mon, 23 Sep 2002 17:05:56 +0100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-100103-2002.09.23-12.14.15--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> It would seem simple to take a basic 802.11b chip and run it on a
> 900 MHz RF
> board.  Well, maybe not simple; but, it would not be like starting
> from scratch.
>
> There are some 900 MHz RF part availabe and I understand that
> there are full chipsets out that have 802.11b on them?  Hopefully
> they are separate from the RF portion of 2.4 GHz.

The Prism chipsets are now old hat.

The latest releases are the Marvell "Libertas" WLAN chips.
88W8300 is a complete baseband to USB/PCI; 88W8500 is
a complete WLAN AP to 10/100Mbit/s twisted-pair. Also
Realtek RTL8180L single-chip baseband. In fact
the days of Linux OpenAP look numbered; the AP as
we know it is now an ASIC. In the next 6 months WLAN
transceiver prices I expect will drop by half.

Many chipsets require (or contain) a microcontroller that
implements low-level elements of the 802.11b protocols.
To get them to work requires substantial software effort or
licensing from the chipset supplier. Linux contains source
for 802.11b WLAN drivers, but relies on the cards firmware
for detailed protocol support. You're better off buying a
card and sawing off the 2.4GHz bit.

I have obtained small quantities of Prism devices from
Intersil disties; the other devices mentioned above
you've got no chance. They'll only be interested in major
design-ins. I have 10 off HFA3683 if anyone has a use
for them - I don't think that's the baseband chip.

Note 802.11b DSSS has a code length of only 11 -
given that the demod needs an SNR of 14dB or more,
it's hardly very impressive or robust as a spread-
spectrum system. The AMI waveplex chips allow much
longer codes. Pity their on-chip VCOs aren't up to the

job of locking such large ratios.

USB distance is max 5m; I compute 6m given expensive
cable with low velocity-factor. Repeatered extension
cables can be cascaded. Can be used to connect a
mast-mount transceiver to a PC in the attic; for a PC in the
garage you're better off with ethernet TP. I'm preparing to
install 100Mbit/s TP everywhere; up the mast, down the
garden, in the shed, with a hub in the utility cupboard.

I've wondered if a downlead is necessary at all, as
an AP on a mast can operate repeater to a WLAN
card on the ground; you can even setup a login
and configure it remotely over-the-air. I decided not
to burn bandwidth. I want to serve video and run
videochat and leave amateur packet and ATV in
the dust! If you've got a laptop in the car, one of the
new USB pods on a magnet sounds great.


Having taken a 2.4GHz design and hacked it to circa
900MHz, it is doable. Yes, obviously you'll need to
change the filters, the VCO, the synth programming, and
lots of RF matching networks. Many RF chips for 2.4GHz
will work fine at 900MHz; they're not that narrow band.
You may find you have too much gain and things oscillate.
If you keep the high IF and reduce the LO and RF
frequency, expect problems with unwanted mixing
products in-band. Mixing high-side can help, but really
you need to re-architect and select a lower  IF frequency,
whatever  is common in 900MHz designs; but are SAW
filters for 802.11b bandwidths available?

There are about 3 key components that make it
difficult for amateurs to do these designs as they're
difficult to get in small qualtities, or the investment
for custom parts is high; SAW IF filters, Ceramic or
SAW RF filters, and VCOs. The market seems to
be flush with cheap 13MHz TCXOs; 2 years ago
TCXOs were a problem. In fact this is the reason why
the military would find it difficult to get a WLAN card
for alternative frequencies; less than 10,000 pieces
nobody would be interested.

As 900MHz is peculiar to North America. It makes more
sense to concentrate on bands with more BW and more
amateurs. You also have devices like the Cybiko which
already have cheap 900MHz transceivers you can play
about  with.

Ant



---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 69. [ss] Re: 900 MHz 802.11b (Thinking Out Loud)

From: s.monsey@att.net
Date: Mon, 23 Sep 2002 16:44:53 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-100106-2002.09.23-12.26.28--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

If one has to retune filters, VCO's etc.

Anyone concider 1.2Ghz?

Steve N0FPF
>
> As 900MHz is peculiar to North America. It makes more
> sense to concentrate on bands with more BW and more
> amateurs. You also have devices like the Cybiko which
> already have cheap 900MHz transceivers you can play
> about  with.
>
> Ant
>

> 
> 
> ---
> You are currently subscribed to ss as: s.monsey@att.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
> 

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 70. [ss] Re: 900 MHz 802.11b (Thinking Out Loud)

From: dubose@texas.net
Date: Mon, 23 Sep 2002 12:58:35 US/Central
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-100113-2002.09.23-13.40.07--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> If one has to retune filters, VCO's etc.
> 
> Anyone concider 1.2Ghz?
> 

        Considering what Ant said, 1.2 GHz certainly looks like a better
        candidate than 900 MHz.  That's Ok with me...I used to have and
        APX-6 on 1296.

        Walt/K5YFW

        PS, I was a danger to myself and others with the RF back then.

> Steve N0FPF
> > 
> > As 900MHz is peculiar to North America. It makes more
> > sense to concentrate on bands with more BW and more
> > amateurs. You also have devices like the Cybiko which
> > already have cheap 900MHz transceivers you can play
> > about  with.
> > 
> > Ant
> > 

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 71. [ss] Re: 900 MHz 802.11b (Thinking Out Loud)

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Tue, 24 Sep 2002 10:49:01 +0100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-100248-2002.09.24-05.38.41--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> If one has to retune filters, VCO's etc.
> 
> Anyone concider 1.2Ghz?
> 

     Considering what Ant said, 1.2 GHz certainly looks like a better
     candidate than 900 MHz.  That's Ok with me...I used to have and
     APX-6 on 1296.

Why?

A dish or an omni alford slot has more gain at 2.4GHz for
the same size.

Why's it so difficult to build power amps at 2.4GHz?
There are cheap PA devices for 900MHz GSM phones.
There are also cheap devices for 1.8GHz GSM phones
that could be usable at 2.4GHz. Making PAs suitable for
mast-mount could be a pain.

Range in foliage & buildings is about 50% more at 900MHz
compared to 2.4GHz. Not spectacular.

If there's a reason, it would be the overcrowding at  2.4GHz.

I don't think that's happened here yet, but over the next 5
years perhaps, as the cost of WLAN is dropping and I
expect many will adopt WLAN home networking. By then
I think we'll be modifying 802.11a 5.6GHz devices. 1.3GHz
is already pretty crowded with ATV repeaters & the like.

I'm happy to use what I've already got, and build and
erect effective antennas.

As far as the 802.11b protocol is concerned, it isn't
designed for star networks. Neither is AX.25. Where we
put up a decent omni on a server and clients connect
via dishes or yagis, we need a protocol that doesn't
rely 100% on collision detection. It'll work fine until I get
some users really using it.  802.11 isn't the answer to all
problems. Performance is not down to RF alone - there's
a need for software people to work on efficient protocols.

Ant, M1FDE

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 72. Your confirmation is needed (ok 6751)

From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Fri, 27 Sep 2002 09:25:30 -0500
To: lyris.ss@tapr.org
Message-ID: <LYR6751-100717-2002.09.27-09.25.30--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Your email address 'lyris.ss@tapr.org' has been submitted to be
unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be
unsubscribed.

To confirm that you do want to unsubscribe, reply to this message so that
the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to
unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the
mailing list.

---

Return-Path: <J.Sumpter@numeca.be>
Received: from looking.iplannetworks.net ([200.69.193.218]) by lists.tapr.org with SMTP (Lyris Server
version 3.0); Fri, 27 Sep 2002 09:25:26 -0500
Received: (qmail 14498 invoked from network); 27 Sep 2002 02:45:34 -0000
Received: from ol151-192.fibertel.com.ar (HELO unspecified.host) (24.232.192.151)
  by 0 with SMTP; 27 Sep 2002 02:45:34 -0000
Received: from 193.171.155.90 ([193.171.155.90]) by 24.232.192.151 (WinRoute Pro 4.1) with SMTP; Thu, 26
 Sep 2002 23:41:42 -0300
Message-ID: <00005a676f69$00005735$00001252@mail.nso.go.kr>
To: ss-request
From: "E-Business News" <J.Sumpter@numeca.be>
Subject:
Date: Thu, 26 Sep 2002 19:42:06 -1900
MIME-Version: 1.0
Content-Type: text/html;
        charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <J.Sumpter@numeca.be>
Received: from looking.iplannetworks.net ([200.69.193.218]) by lists.tapr.org with SMTP (Lyris Server

```
version 3.0); Fri, 27 Sep 2002 09:25:26 -0500
Received: (qmail 14498 invoked from network); 27 Sep 2002 02:45:34 -0000
Received: from ol151-192.fibertel.com.ar (HELO unspecified.host) (24.232.192.151)
  by 0 with SMTP; 27 Sep 2002 02:45:34 -0000
Received: from 193.171.155.90 ([193.171.155.90]) by 24.232.192.151 (WinRoute Pro 4.1) with SMTP; Thu, 26
 Sep 2002 23:41:42 -0300
Message-ID: <00005a676f69$00005735$00001252@mail.nso.go.kr>
To: <J.Sumpter@numeca.be>
From: "E-Business News" <J.Sumpter@numeca.be>
Subject: Conference Calls For Less
Date: Thu, 26 Sep 2002 19:42:06 -1900
MIME-Version: 1.0
Content-Type: text/html;
        charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable

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<META http-equiv=3DContent-Type content=3D"text/html; charset=3Dwindows-12=
52">
<META content=3D"MSHTML 5.50.4134.600" name=3DGENERATOR></HEAD>
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face=3Darial,helvetica>
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<TABLE width=3D600 border=3D0>
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  <TR>
    <TD align=3Dmiddle><B><FONT color=3D#999999 size=3D6>Conferencing Made=
 Easy</FONT><BR>
<FONT color=3D#999999 size=3D5>Only <U>18 Cents</U> Per Minute!</B></FONT>=
</TD></TR></TBODY></TABLE>
<P><FONT color=3D#ff0000 size=3D5><B>(Including Long Distance!)</B></FONT>=

<P>
<TABLE width=3D350 border=3D0>
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    <TD><FONT color=3D#999999 size=3D3><B>
      <LI>No setup fees
      <LI>No contracts or monthly fees
      <LI>Call anytime, from anywhere, to anywhere
      <LI>Connects up to 100 Participants
      <LI>Simplicity in set up and administration
      <LI>Operator Help available 24/7 </B></FONT></LI></TD></TR></TBODY><=
/TABLE>
<P>
<TABLE width=3D500 border=3D0>
  <TBODY>
  <TR>
    <TD align=3Dmiddle><FONT color=3D#ff0000 size=3D60><B><FONT size=3D5>T=
he Highest Quality Service For The Lowest Rate In The Industry!</B></FONT>=
</FONT></TD></TR></TBODY></TABLE>
<P>
<TABLE width=3D400 border=3D0>
  <TBODY>
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    <TD align=3Dmiddle><FONT color=3D#999999 size=3D4>Fill out the form be=
low to find out how you can lower your phone bill every month.</FONT></TD>=
</TR></TBODY></TABLE>
<P><FONT color=3D#999999 size=3D2>Required Input Field<FONT color=3D#ff000=
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size=3D2>*</FONT></FONT>
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borderColorLight=3D#ffffcc>
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      method=3Dpost encType=3Dtext/plain>
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        <TBODY>
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          <TD align=3Dright width=3D"50%"><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#999999
          size=3D2>Name</FONT><FONT
```

```
            face=3D"Arial, Helvetica, sans-serif" color=3D#ff0000
            size=3D2>*</FONT></TD>
          <TD><INPUT name=3DNAME></TD></TR>
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          <TD align=3Dright width=3D"50%"><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#999999 size=3D2=
>Web
            Address</FONT></TD>
          <TD><INPUT value=3Dhttp:// name=3DURL></TD></TR>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#999999 size=3D2=
>Company
            Name</FONT><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#ff0000
            size=3D2>*</FONT></TD>
          <TD><INPUT name=3DCOMPANY_NAME></TD></TR>
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>
            State</FONT><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#ff0000
            size=3D2>*</FONT></TD>
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        <TR>
          <TD align=3Dright width=3D"50%"><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#999999 size=3D2=
>Business
            Phone</FONT><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#ff0000
            size=3D2>*</FONT></TD>
          <TD><INPUT name=3DBUS_PHONE></TD></TR>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#999999 size=3D2=
>Home
            Phone</FONT></TD>
          <TD><INPUT name=3DHOME_PHONE></TD></TR>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#999999 size=3D2=
>Email
            Address</FONT><FONT
            face=3D"Arial, Helvetica, sans-serif" color=3D#ff0000
            size=3D2>*</FONT></TD>
          <TD><INPUT name=3DEMAIL></TD></TR>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT
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>Type of
            Business</FONT></TD>
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      <P><INPUT type=3Dsubmit value=3D"Submit Information" name=3Dsubmit>
    </FORM></P></TD></TR></TBODY></TABLE>
<BR><BR>
<TABLE width=3D500>
  <TBODY>
  <TR>
    <TD align=3Dmiddle><FONT face=3D"Arial, Helvetica, sans-serif" color=3D=
#999999
      size=3D1>To be removed from this list, send an e-mail to <u>remove@b=
2b-mail.net</u><br>Type the word "remove" in the subject line.
      </FONT>.</FONT></TD></TR></TBODY></TABLE></P></CENTER></BODY></HTML>
```

## 73. Take Advantage of The Economy While You Can!

```
From: "E-Business News" <J.Kasey@alpha.uwb.edu.pl>
Date: Sat, 28 Sep 2002 19:08:20 -1900
To: <J.Kasey@alpha.uwb.edu.pl>
Message-ID: <000030b86805$000014f4$000026ce@mx.gate.uunet.be>
Rendered body type: text/html
```

```
Reduce Your Debt & Eliminate All Interest and Fees!

Click Here Now to Reduce Your Debt up to 60% <http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spect
rum-sig/mail_archive/3D"http://www.b2b-mail.net/debt_fix">

Your Free, No Obligation Debt Consultation
is only a Click away!
```

• 100% Confidential: Your consultation is strictly private!

• Speed things up: Pay off your balances faster!

• Eliminate Fees: Get rid of those annoying Over-Limit and Late Fees

• No Home Ownership required

Restore Your Credit Rating <http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archi
ve/3D"http://www.b2b-mail.net/debt_fix">

End creditor harrassment and leave the hassle behind!

You can be Debt-Free in 24 Months or Less!

## 74. Your confirmation is needed (ok 6751)

From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Sun, 29 Sep 2002 03:36:31 -0500
To: lyris.ss@tapr.org
Message-ID: <LYR6751-100978-2002.09.29-03.36.31--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Your email address 'lyris.ss@tapr.org' has been submitted to be
unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be
unsubscribed.

To confirm that you do want to unsubscribe, reply to this message so that
the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to
unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the
mailing list.

---

Return-Path: <max9249@ais.Berger-Levrault.fr>
Received: from mail ([210.255.105.66]) by lists.tapr.org with SMTP (Lyris Server version 3.0); Sun, 29
Sep 2002 03:36:20 -0500
Received: from smtp1.lerelaisinternet.com [210.111.140.195] by mail with ESMTP
  (SMTPD32-4.10) id A32022A5024A; Sun, 29 Sep 2002 16:56:16 +0900
Message-ID: <00000fb67384$000068de$0000233e@smtp1.lerelaisinternet.com>
To: ss-request
From: "Customer Service" <max9249@ais.Berger-Levrault.fr>
Subject:
Date: Sun, 29 Sep 2002 00:54:44 -1900
MIME-Version: 1.0
Content-Type: text/html;
        charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <max9249@ais.Berger-Levrault.fr>
Received: from mail ([210.255.105.66]) by lists.tapr.org with SMTP (Lyris Server version 3.0); Sun, 29
Sep 2002 03:36:20 -0500
Received: from smtp1.lerelaisinternet.com [210.111.140.195] by mail with ESMTP
  (SMTPD32-4.10) id A32022A5024A; Sun, 29 Sep 2002 16:56:16 +0900
Message-ID: <00000fb67384$000068de$0000233e@smtp1.lerelaisinternet.com>
To: <max9249@ais.Berger-Levrault.fr>
From: "Customer Service" <max9249@ais.Berger-Levrault.fr>
Subject: Instantly Eliminate 60% Of Your
Date: Sun, 29 Sep 2002 00:54:44 -1900
MIME-Version: 1.0
Content-Type: text/html;
        charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable

```
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"arial" size=3D"4" color=3D"#FCFCAF"><b>Reduce Your Debt & Eliminate All I=
nterest and Fees!</b></font></td>
ter">
al" size=3D"4" color=3D"#0000ff">Click Here Now to Reduce Your Debt up to =
60%</font></a></b></font></td>
">
our Free, No Obligation Debt Consultation<br>is only a Click away!</B></fo=
nt></td>
rial" size=3D"2" color=3D"#5A106C">
:</b> Your consultation is strictly private!</font></td>
>
#5A106C">
faster!</font></td>
t face=3D"arial" size=3D"2" color=3D"#5A106C">
ate Fees:</b> Get rid of those annoying Over-Limit and Late Fees</font></t=
d>
size=3D"2" color=3D"#5A106C">
red</i></font></td>
r>
 size=3D"5" color=3D"#0000ff"><b>Restore Your Credit Rating</font></a></b>
      <br><font face=3D"arial" size=3D"2" color=3D"#000000"><i>End credito=
r harrassment and leave the hassle behind!</i></font></td>
tr>
al" size=3D"3" color=3D"#FCFCAF"><b>You can be Debt-Free in 24 Months or L=
ess!</b></font></td>
r>
```

# October 2002

Original source file: ss.0210
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/ss.0210

## 1. [ss] Products - Spread Spectrum Amplifiers & WLAN]

From: Walt DuBose <dubose@texas.net>
Date: Tue, 01 Oct 2002 20:02:53 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-101334-2002.10.01-20.43.16--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Look at this?  http://www.ydi.com/products/amplifiers.php

Especially http://www.ydi.com/products/amp2441-amplifier.php
Any takers to reverse engineer it.

Also, take a look at this article,
http://news.com.com/2100-1033-959924.html

Walt/K5YFW

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 2. [ss] Re: Products - Spread Spectrum Amplifiers & WLAN

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Wed, 2 Oct 2002 09:48:53 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-101373-2002.10.02-10.30.49--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>Look at this? http://www.ydi.com/products/amplifiers.php
>
>Especially http://www.ydi.com/products/amp2441-amplifier.php
>Any takers to reverse engineer it.

Still seems a bit pricey.. If you can get the FCC ID for it;
http://www.fcc.gov/oet/fccid/    Thats a good starting point
FCC records of commercial amplifiers:
http://www.qsl.net/n9zia/wireless/appendixD.html

>
>Also, take a look at this article,
>http://news.com.com/2100-1033-959924.html

Wish there was a product spec sheet.  I've seen standard 100mW
output 802.11b cards pull 12 miles.  This sounds simular to
Proxim's High Power "Tsunami" Wireless Bridge

Ham Ethernet Using Part 15 Wireless Etherenet Devices Under Part 97:
http://www.qsl.net/kb9mwr/projects/wireless/plan.html

---
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## 3. [ss] Write

From: Stan Horzepa <stanzepa@earthlink.net>
Date: Wed, 02 Oct 2002 18:41:05 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-101413-2002.10.02-18.33.25--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

TAPR members:

Here is your chance to become rich and famous! Well, maybe not rich, but
certainly famous.

The editorial board of Packet Status Register (PSR, TAPR□s quarterly
newsletter) is now soliciting articles, news items, etc. for the next issue
of the newsletter. Topics related to digital Amateur Radio will be given
preference and the editorial board reserves the right to determine what is
suitable for publication.

E-mail your contributions to wa1lou@tapr.org ASAP because the deadline for

the next issue of the newsletter is October 24.

73,

Stan Horzepa, WA1LOU, PSR Editor

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 4. [ss] What path to take...

From: Chuck Hast <kp4djt@tampabay.rr.com>
Date: Fri, 4 Oct 2002 17:28:36 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-101760-2002.10.04-17.10.41--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I figured this would be the best place to ask this one. I have my ideas
but like flying airplanes in busy traffic areas the more eyes in the cockpit
the better....

I want to go from my home office which is in a building about 300 ft from
my home  to my home. I want to use some 802.11 stuff, I was thinking
of going from office to home using the bridge devices, there would be
two on the home end the one that handles the link from office to house
and the other that handles the devices in the house. I would set them
up with different channels or spreading codes or whatever it is they
set. The other idea was to use the one on the house end as a "digi"
I think they can do that, and just do away with the third device, the only
problem I can see there is the hidden terminal thing which of course
would also be present with the other system, but I would hope by having
separate codes it would make it a bit less of a problem. I think the distance
is just a bit too far to reach all parts of the house from the office without
some help.

Now what are your recommendations, one thing... gotta keep cost down.
I think the run is too far for 10/100 baseT (about 300 ft from hub to hub)
I suppose I could run 10/100baseT but I think it is limited to only 50 feet
between repeaters

--
Chuck Hast
KP4DJT
kp4djt@tampabay.rr.com
To paraphrase my flight instructor;
"the only dumb question is the one you DID NOT ask resulting in my
going out and having to identify your bits and pieces in the midst of
torn and twisted metal."

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 5. [ss] Re: What path to take...

From: Walt DuBose <dubose@texas.net>
Date: Fri, 04 Oct 2002 20:39:09 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-101775-2002.10.04-21.19.35--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Actually 300 ft is about the limit for CAT 5 (100 meters).  I you
use REALLY high grade burial CAT 5, you are looking at $250 per
1000 ft roll.  You might just me able to make the run.  Make sure
you use RJ-45s with a rubber shield.  Also, just as soon as the
get in the structure, hit a good switch.  You are really looking
at 4 switches at maybe $200 each ($400) and $250 worth of CAT 5
(you can probably sell the unused 400 ft for $100).  Total cost
is $550.

Or

You could by 4 LinkSys WET11s at about $130 for about the the
same as CAT 5.  You might have to purchase some beam antennas if
the ones provided don't give you enough signal strength.

Walt/K5YFW

Chuck Hast wrote:

> 
> I figured this would be the best place to ask this one. I have my ideas
> but like flying airplanes in busy traffic areas the more eyes in the cockpit
> the better....
> 
> I want to go from my home office which is in a building about 300 ft from
> my home  to my home. I want to use some 802.11 stuff, I was thinking
> of going from office to home using the bridge devices, there would be
> two on the home end the one that handles the link from office to house
> and the other that handles the devices in the house. I would set them
> up with different channels or spreading codes or whatever it is they
> set. The other idea was to use the one on the house end as a "digi"
> I think they can do that, and just do away with the third device, the only
> problem I can see there is the hidden terminal thing which of course
> would also be present with the other system, but I would hope by having
> separate codes it would make it a bit less of a problem. I think the distance
> is just a bit too far to reach all parts of the house from the office without
> some help.
> 
> Now what are your recommendations, one thing... gotta keep cost down.
> I think the run is too far for 10/100 baseT (about 300 ft from hub to hub)
> I suppose I could run 10/100baseT but I think it is limited to only 50 feet
> between repeaters
> 
> --
> Chuck Hast
> KP4DJT
> kp4djt@tampabay.rr.com
> To paraphrase my flight instructor;
> "the only dumb question is the one you DID NOT ask resulting in my
> going out and having to identify your bits and pieces in the midst of
> torn and twisted metal."
> 
> ---
> You are currently subscribed to ss as: dubose@texas.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 6. [ss] Re: What path to take...

From: wchast@utilpart.com
Date: Fri, 4 Oct 2002 23:05:54 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-101778-2002.10.04-22.48.10--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> -----Original Message-----
> From: Walt DuBose [mailto:dubose@texas.net]
> Sent: Friday, October 04, 2002 09:39 PM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: What path to take...
> 
> 
> Actually 300 ft is about the limit for CAT 5 (100 meters).  I you
> use REALLY high grade burial CAT 5, you are looking at $250 per
> 1000 ft roll.  You might just me able to make the run.  Make sure
> you use RJ-45s with a rubber shield.  Also, just as soon as the
> get in the structure, hit a good switch.  You are really looking
> at 4 switches at maybe $200 each ($400) and $250 worth of CAT 5
> (you can probably sell the unused 400 ft for $100).  Total cost
> is $550.
> 
> Or
> 
> You could by 4 LinkSys WET11s at about $130 for about the the
> same as CAT 5.  You might have to purchase some beam antennas if
> the ones provided don't give you enough signal strength.

Ok I want to run RF in the house, so lets say I get the good CAT 5
and come off of the switch in the office (already there) go the 100m
to the house and hit the WAP as soon as I get in the house would
that take care of it? If so then I have the cost of the CAT 5 and
the WAP on the house end. The computers in the house end will use
wireless nic cards in them anyhow. So at this point it would appear
that I could do it for the cost of the CAT 5 and 1 WAP.

Now if I do it all wireless then I would have two 3 WAPS and whatever

wireless NIC's needed on the house end. Or do I need more WAPS, do not
see why, but I may not be seeing something in my diagram.

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## 7. [ss] Re: What path to take...

From: Walt DuBose <dubose@texas.net>
Date: Fri, 04 Oct 2002 22:20:31 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-101779-2002.10.04-23.00.59--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Go to
http://www.linksys.com/Products/product.asp?grid=22&prid=432 and
download the users guide and look at the network setups.  That
should answer most of your configuration questions.

Walt/K5YFW

wchast@utilpart.com wrote:
>
> > -----Original Message-----
> > From: Walt DuBose [mailto:dubose@texas.net]
> > Sent: Friday, October 04, 2002 09:39 PM
> > To: TAPR Spread Spectrum Special Interest Group
> > Subject: [ss] Re: What path to take...
> >
> >
> > Actually 300 ft is about the limit for CAT 5 (100 meters).  I you
> > use REALLY high grade burial CAT 5, you are looking at $250 per
> > 1000 ft roll.  You might just me able to make the run.  Make sure
> > you use RJ-45s with a rubber shield.  Also, just as soon as the
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> > (you can probably sell the unused 400 ft for $100).  Total cost
> > is $550.
> >
> > Or
> >
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> > same as CAT 5.  You might have to purchase some beam antennas if
> > the ones provided don't give you enough signal strength.
>
> Ok I want to run RF in the house, so lets say I get the good CAT 5
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> to the house and hit the WAP as soon as I get in the house would
> that take care of it? If so then I have the cost of the CAT 5 and
> the WAP on the house end. The computers in the house end will use
> wireless nic cards in them anyhow. So at this point it would appear
> that I could do it for the cost of the CAT 5 and 1 WAP.
>
> Now if I do it all wireless then I would have two 3 WAPS and whatever
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>
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>
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You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 8. [ss] Re: What path to take...

From: wchast@utilpart.com
Date: Sat, 5 Oct 2002 00:27:34 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-101793-2002.10.05-00.09.53--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> -----Original Message-----
> From: Walt DuBose [mailto:dubose@texas.net]
> Sent: Friday, October 04, 2002 11:21 PM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: What path to take...
>
>
> Go to
> http://www.linksys.com/Products/product.asp?grid=22&prid=432 and
> download the users guide and look at the network setups.  That
> should answer most of your configuration questions.
>

Walt,
Thanks, I think that will do the trick, I may have a roll of
CAT 5 to test with, I will just go and get me a WET-11 and
a NIC card for a laptop initially that will get things going
at the house, this may only be the cost of the WET11 and the
NIC...
I got RJ connectors and I think I may have the expensive
CAT 5 within reach...

I already have a LINKSYS box anyhow so should make it that
much easier.

****************************************************************
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addressed. If you have received this transmission in error, please notify
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## 9. [ss] Re: Products - Spread Spectrum Amplifiers & WLAN]

From: xlpitlum <multiplx@online.dct.com>
Date: Sat, 5 Oct 2002 01:49:27 -0500 (CDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-101799-2002.10.05-02.31.32--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Look at this?  http://www.ydi.com/products/amplifiers.php
>
> Especially http://www.ydi.com/products/amp2441-amplifier.php
> Any takers to reverse engineer it.

There is not much to them, diode RF detector on the input controlling
the TX/RX switching, usually via seperate MOSFETs.  You just need all
the parts to be very linear and switch *really* fast.  Making a RF sense
switch (for switching TX/RX) is easy with Analog Devices AD8313/AD8314
log amps.  Couple to it with a stripline directional coupler.

Power is sent via a simple bias tee.  The TX/RX LEDs are toggled by
monitoring the amplifier's current draw.  Most manufactures are using
common FR-4 PCB for their 2.4 GHz hardware.  Slight improvements could
be made by using GIL or Rogers high-frequency laminates.

Lightning protection on the antenna end is nothing more than a 1/4-wave
stub to ground.

As a side note, it's possible to tweak some of the lower powered 2.4 GHz
amplifiers sold by some manufactures for a higher output, they use
programmable attenuators on the input to the RF power amplifier.

RF switch MMICs
~~~~~~~~~~~~~~~
Hittite HMC154 or NEC UPG137
http://www.hittite.com/product_info/product_specs/switches/hmc154s8.pdf

RF 2.4 GHz power amplifier ICs
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
RF Micro Devices RF2126
http://www.qsl.net/n9zia/wireless/pdf/2126.pdf

M/A-Com MA02303GJ
http://www.macom.com/data/datasheet/MA02303GJ_V2.pdf

Pacific Monolithics PM2104/7 series
http://catalog.rell.com/rellecom/Images/Objects/2100/2050.PDF

Teletronics TC3151 (2 watts)
http://www.teletronics.com/tii/products/ics_modules/TC3151.pdf

Raytheon PA2450
http://www.raytheonrf.com/pdf/RMPA2450-58.pdf

It may even be possible use high power 2.1 GHz PCS celular phone
hybrid modules at 2.4 GHz.

Receive Pre-amps
~~~~~~~~~~~~~~~~
Discrete GaAsFET or a bunch of companies make 2.4 GHz LNAs.
Toko or Murata 2.4 GHz bandpass filters

---
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## 10. [ss] Re: What path to take...

From: Walt DuBose <dubose@texas.net>
Date: Sat, 05 Oct 2002 09:04:48 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-101821-2002.10.05-09.45.15--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have used water hose for burial.  Just tape and "pot" the
connections well.  It doesn't last as long as PVC...maybe only 3
years.  I can get 1/2" 10 ft  lengths for less than 75
cents...then kind that is self joining if I buy in lots and I
think it comes in 30 piece lots.  If you use this method, feed
only 10 ft of CAT 5 at a time and make the joints as you go.

Walt

wchast@utilpart.com wrote:
>
> > -----Original Message-----
> > From: Walt DuBose [mailto:dubose@texas.net]
> > Sent: Friday, October 04, 2002 11:21 PM
> > To: TAPR Spread Spectrum Special Interest Group
> > Subject: [ss] Re: What path to take...
~~~~~~~~~~~~~~~~

> >
> >
> > Go to
> > http://www.linksys.com/Products/product.asp?grid=22&prid=432 and
> > download the users guide and look at the network setups.  That
> > should answer most of your configuration questions.
> >
>
> Walt,
> Thanks, I think that will do the trick, I may have a roll of
> CAT 5 to test with, I will just go and get me a WET-11 and
> a NIC card for a laptop initially that will get things going
> at the house, this may only be the cost of the WET11 and the
> NIC...
> I got RJ connectors and I think I may have the expensive
> CAT 5 within reach...
>
> I already have a LINKSYS box anyhow so should make it that
> much easier.
>
>
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>
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## 11. [ss] Re: Products - Spread Spectrum Amplifiers & WLAN]

From: Walt DuBose <dubose@texas.net>
Date: Sat, 05 Oct 2002 09:11:25 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-101822-2002.10.05-09.51.53--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

A BIG help.  Thanks.

Walt

xlpitlum wrote:
>
> > Look at this?  http://www.ydi.com/products/amplifiers.php
> >
> > Especially http://www.ydi.com/products/amp2441-amplifier.php
> > Any takers to reverse engineer it.
>
>   There is not much to them, diode RF detector on the input controlling
>   the TX/RX switching, usually via seperate MOSFETs.  You just need all
>   the parts to be very linear and switch *really* fast.  Making a RF sense
>   switch (for switching TX/RX) is easy with Analog Devices AD8313/AD8314
>   log amps.  Couple to it with a stripline directional coupler.
>
>   Power is sent via a simple bias tee.  The TX/RX LEDs are toggled by
>   monitoring the amplifier's current draw.  Most manufactures are using
>   common FR-4 PCB for their 2.4 GHz hardware.  Slight improvements could
>   be made by using GIL or Rogers high-frequency laminates.
>
>   Lightning protection on the antenna end is nothing more than a 1/4-wave
>   stub to ground.
>
>   As a side note, it's possible to tweak some of the lower powered 2.4 GHz
>   amplifiers sold by some manufactures for a higher output, they use
>   programmable attenuators on the input to the RF power amplifier.
>
>   RF switch MMICs

>   ~~~~~~~~~~~~~~~~
>   Hittite HMC154 or NEC UPG137
>   http://www.hittite.com/product_info/product_specs/switches/hmc154s8.pdf
>
>   RF 2.4 GHz power amplifier ICs
>   ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
>   RF Micro Devices RF2126
>   http://www.qsl.net/n9zia/wireless/pdf/2126.pdf
>
>   M/A-Com MA02303GJ
>   http://www.macom.com/data/datasheet/MA02303GJ_V2.pdf
>
>   Pacific Monolithics PM2104/7 series
>   http://catalog.rell.com/rellecom/Images/Objects/2100/2050.PDF
>
>   Teletronics TC3151 (2 watts)
>   http://www.teletronics.com/tii/products/ics_modules/TC3151.pdf
>
>   Raytheon PA2450
>   http://www.raytheonrf.com/pdf/RMPA2450-58.pdf
>
>   It may even be possible use high power 2.1 GHz PCS celular phone
>   hybrid modules at 2.4 GHz.
>
>   Receive Pre-amps
>   ~~~~~~~~~~~~~~~~
>   Discrete GaAsFET or a bunch of companies make 2.4 GHz LNAs.
>   Toko or Murata 2.4 GHz bandpass filters
>
> ---
> You are currently subscribed to ss as: dubose@texas.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 12. [ss] Designing a DSSS Correlator

From: John Battle <john@e6b.com>
Date: Sat, 05 Oct 2002 10:07:03 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-101834-2002.10.05-12.50.24--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I am new to the group and would like to get some feedback from some of you pros that have already "been there". I am thinking of building a correlator using a large PLD. My approach is to make a pair of 127 bit shift registers with XOR's between them so that I have 127 outputs which I will sum in resistors to obtain an analog correlation function. One of the registers will be preloaded, via SPI, with the PN sequence and theother will contain the signal shifting by. What is the gotcha in this approach. I believe there must be something wrong with it because nobody seems to do it this way, but I don't understand what it is. Any comments?

John Battle

---
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## 13. [ss] RE: Designing a DSSS Correlator <LYR30627-101834-2002.10.05-12.50.24--spamdump#optonline.net@lists.tapr.org>

From: spamdump <spamdump@optonline.net>
Date: Sat, 05 Oct 2002 15:42:51 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-101847-2002.10.05-15.24.53--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

John,

This is a hybrid analog/digital method and is not easily integrated. The preferred method is to do this digitally. Count the number of matches and compare that against your threshold.

hth

-----Original Message-----

From: bounce-ss-30627@lists.tapr.org
[mailto:bounce-ss-30627@lists.tapr.org]On Behalf Of John Battle
Sent: Saturday, October 05, 2002 1:07 PM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] Designing a DSSS Correlator

I am new to the group and would like to get some feedback from some of you pros that have already "been there". I am thinking of building a correlator using a large PLD. My approach is to make a pair of 127 bit shift registers with XOR's between them so that I have 127 outputs which I will sum in resistors to obtain an analog correlation function. One of the registers will be preloaded, via SPI, with the PN sequence and theother will contain the signal shifting by. What is the gotcha in this approach. I believe there must be something wrong with it because nobody seems to do it this way, but I don't understand what it is. Any comments?

John Battle

---
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---
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## 14. [ss] Designing a DSSS Correlator (cont)

From: John Battle <john@e6b.com>
Date: Sat, 05 Oct 2002 14:59:10 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-101856-2002.10.05-17.42.31--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

hth:
Thanks for taking the time to answer my question.
I thought of doing it digitally, but could not figure out any easy way to count
the number of one's at the output of the XOR's. Admittedly, I am not a very sophisticated digital designer, so maybe this is easy, but I don't know the trick. I thought of just writing a Verilog statement but was afraid that it would compile into a huge amount of macro cells. Can you give me any pointers? This would be much better since it would not require as many I/O pins on the PLD (I was planning on using two just to get enough pins).

The only thing I am concerned about is propagation delay. I am intending on runiing this correlator pretty fast, so I don't want to limit the PLD by having lots of "layers" of gates. Actually I don't have much of a feel for this, but I am assuming it might be a problem. I certainly don't believe I have "time" to count the pulses serially, which would be the easiest way to do it.

Thanks
John Battle

John,
This is a hybrid analog/digital method and is not easily integrated. The preferred method is to do this digitally. Count the number of matches and compare that against your threshold.
hth

---
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## 15. [ss] RE: ss digest: October 04, 2002

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Sun, 6 Oct 2002 08:56:43 +1000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-101860-2002.10.05-18.41.00--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

G'Day...

The 100m limit of Cat-5 is more for timing than anything else. If you
use cat-5e cable there should not be too many problems. Timing wise for
a point to point link (network card to network card) you should be able
to get about 175m which was the old maximum length of a cable segment.
The timing is designed arround a hub that is dumb, so interfering
signals need to get from one station through the hub to another station
to detect errors, a path of 200m

Buy 1000' of Cat 5e cable and try it

Hope this helps

Darryl

---
Darryl Smith, VK2TDS  POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

---
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## 16. [ss] RE: Designing a DSSS Correlator (cont) <LYR30627-101856-2002.10.05-17.42.31--spamdump#optonline.net@lists.tapr.org>

From: spamdump <spamdump@optonline.net>
Date: Sat, 05 Oct 2002 19:35:30 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-101861-2002.10.05-19.17.35--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

John,

You don't need a pair of 128 bit registers. Use one xor gate. Feed that into
a counter. Clear the counter at the beginning of the sequence. At the end of
the sequence latch the results.

By the way, hth means "hope that helps".

Regards

-----Original Message-----
From: bounce-ss-30627@lists.tapr.org
[mailto:bounce-ss-30627@lists.tapr.org]On Behalf Of John Battle
Sent: Saturday, October 05, 2002 5:59 PM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] Designing a DSSS Correlator (cont)

hth:
Thanks for taking the time to answer my question.
I thought of doing it digitally, but could not figure out any easy way to
count
the number of one's at the output of the XOR's. Admittedly, I am not a very
sophisticated digital designer, so maybe this is easy, but I don't know the
trick. I thought of just writing a Verilog statement but was afraid that it
would compile into a huge amount of macro cells. Can you give me any
pointers?
This would be much better since it would not require as many I/O pins on the
PLD (I was planning on using two just to get enough pins).

The only thing I am concerned about is propagation delay.  I am intending
on runiing this correlator pretty fast, so I don't want to limit the PLD by
having lots of "layers" of gates.  Actually I don't have much of a feel for
this, but I am assuming it might be a problem.  I certainly don't believe I
have "time" to count the pulses serially, which would be the easiest way to
do it.

Thanks
John Battle

John,
This is a hybrid analog/digital method and is not easily integrated. The

preferred method is to do this digitally. Count the number of matches and
compare that against your threshold.
hth


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## 17. [ss] Designing a DSSS Correlator (cont)

From: John Battle <john@e6b.com>
Date: Sat, 05 Oct 2002 18:44:18 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-101875-2002.10.05-21.27.38--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The thing is, doint it that way requires that I use some sort of slip
generator to acquire cone synchronization.  On the other hand, the parallel
method would sync instantaneously on the first bit.

--John

John,
You don't need a pair of 128 bit registers. Use one xor gate. Feed that into
a counter. Clear the counter at the beginning of the sequence. At the end of
the sequence latch the results.
By the way, hth means "hope that helps".


---
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## 18. [ss] Re: What path to take...

From: wchast@utilpart.com
Date: Sun, 6 Oct 2002 08:55:48 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-101915-2002.10.06-08.38.03--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I already had to do a run of coax, my office used to have
a cable connection, that cable connection was live though
it had only local channels, all the time I had the place
rented out. When I moved my home office into it I just
moved my cable modem to the cable connection in the office
and things were good, well the cable company came out and
cut the cable, they want me to purchase a separate service
for my cable modem even though all is on the same property.

My fix as just to run 300 ft of coax from the house to the
office and get things back on line, but now I have no net-
work in my home, so back to the drawing board. I had 1K ft
of CATV cable so that was not a problem.

> -----Original Message-----
> From: Walt DuBose [mailto:dubose@texas.net]
> Sent: Saturday, October 05, 2002 10:05 AM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: What path to take...
>
>
> I have used water hose for burial.  Just tape and "pot" the
> connections well.  It doesn't last as long as PVC...maybe only 3
> years.  I can get 1/2" 10 ft  lengths for less than 75
> cents...then kind that is self joining if I buy in lots and I
> think it comes in 30 piece lots.  If you use this method, feed
> only 10 ft of CAT 5 at a time and make the joints as you go.
>
> Walt
>
>
> wchast@utilpart.com wrote:

> >
> > > -----Original Message-----
> > > From: Walt DuBose [mailto:dubose@texas.net]
> > > Sent: Friday, October 04, 2002 11:21 PM
> > > To: TAPR Spread Spectrum Special Interest Group
> > > Subject: [ss] Re: What path to take...
> > > >
> > > >
> > > > Go to
> > > > http://www.linksys.com/Products/product.asp?grid=22&prid=432 and
> > > > download the users guide and look at the network setups.  That
> > > > should answer most of your configuration questions.
> > > >
> > >
> > > Walt,
> > > Thanks, I think that will do the trick, I may have a roll of
> > > CAT 5 to test with, I will just go and get me a WET-11 and
> > > a NIC card for a laptop initially that will get things going
> > > at the house, this may only be the cost of the WET11 and the
> > > NIC...
> > > I got RJ connectors and I think I may have the expensive
> > > CAT 5 within reach...
> > >
> > > I already have a LINKSYS box anyhow so should make it that
> > > much easier.
> > >
> > >
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## 19. [ss] Re: Designing a DSSS Correlator

From: "P.Gavalas" <ELA97PG@sheffield.ac.uk>
Date: Sun, 6 Oct 2002 14:07:47 +0100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-101918-2002.10.06-08.50.05--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Dear all,

It has been a long time but I am back...

Right I see there is quite a lot of "gossiping" on DSSS correlators.

I did manage to build one on my third year in the University of
Sheffield UK and I have published a paper on it including the cct
diagram on the 19th TAPR & ARRL  DCC which took place in
Orlando.

Using a number of shift registers by somehow stickin them
together and then wait to get something out of the cct hoping that
you will actually correlate the 2 signals was my first thought back
then.

I presented the thought by designing a high level block diagram to
my supervisor. He was not very keen with the idea.

Reasons:
1) You need a lot of power.
2) How will you eliminate the huge amounts of noise that will be
there to disguise your signal?
Remember by applying a 2^n-1 code on top of your signal you
effectively scale down your power close to the AGWN level by
spreading your transmitting power over a 2^n-1 wider bandwidth.
Shift registers are too keen with noise (or should I say that much
noise)

You need to slide the local generated code at the receiver faster
than the relative speed of the incoming signal. You need to use a
AM demodulation sceme and when the two codes give maximum
output from your double ballanced mixer you then need to rapidly
change your local codes speed to the incoming signal's speed!!

This can only be done by the use of feedback loops.

Buy the 19th TAPR & ARRL 2000 DCC conferrence procedings go
to page 35 and read it the related paper I once wrote..

Best Regards to all,
Panos Gavalas

---
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## 20. [ss] RE: Designing a DSSS Correlator (cont) <LYR27907-101875-2002.10.05-21.27.38--rwmcgwier#comcast.net@lists.tapr.org>

From: Robert McGwier <rwmcgwier@comcast.net>
Date: Sun, 06 Oct 2002 09:54:54 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-101923-2002.10.06-09.37.04--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At what sample offset?  Using whose clock?  You will
have to do some kind of tracking.   With a chipping
rate of (say) 300 kbps, 3e+8/3e+5 = 1 km, so every 500
meters of variation in distance between emitter and
receiver will change the your correlator from sampling
in the optimal place to the worst place and that will hold
only so long as your clocks are synchronous.  They never
will be without extraordinary measures or tracking.

Bob

-----Original Message-----
From: bounce-ss-27907@lists.tapr.org
[mailto:bounce-ss-27907@lists.tapr.org]On Behalf Of John Battle
Sent: Saturday, October 05, 2002 9:44 PM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] Designing a DSSS Correlator (cont)

The thing is, doint it that way requires that I use some sort of slip
generator to acquire cone synchronization.  On the other hand, the parallel
method would sync instantaneously on the first bit.

--John

John,
You don't need a pair of 128 bit registers. Use one xor gate. Feed that into
a counter. Clear the counter at the beginning of the sequence. At the end of
the sequence latch the results.
By the way, hth means "hope that helps".

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## 21. [ss] 19th TAPR & ARRL 2000 DCC conferrence procedings

From: John Battle <john@e6b.com>
Date: Sun, 06 Oct 2002 20:45:04 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-101995-2002.10.06-23.28.33--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Panos:

No luck in finding the 19th TAPR & ARRL 2000 DCC conferrence procedings.
Tried searching on ARRL.  Do you know where I can buy a copy or do you
happen to have a PDF of the article?

--John Battle

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## 22. [ss] Re: 19th TAPR & ARRL 2000 DCC conferrence procedings

From: Greg Jones <wd5ivd@tapr.org>
Date: Sun, 6 Oct 2002 22:49:43 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-101996-2002.10.06-23.32.01--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

TAPR maintains all past proceedings of the conference.

http://www.tapr.org/tapr/html/Fcnc19.html

Cheers - Greg

>Panos:
>
>No luck in finding the 19th TAPR & ARRL 2000 DCC conferrence procedings.
>Tried searching on ARRL.  Do you know where I can buy a copy or do you
>happen to have a PDF of the article?
>
>--John Battle
>

--
-----
Dr. Greg Jones
Lecturer, Dept. Technology and Cognition, College of Education
University of North Texas, Denton, Texas

(972) 492-5472 / Fax (972) 492-5476
email: greg@tapr.org
http://created-realities.com

"Don't be encumbered by history... Go off and do something wonderful!"

-- Robert N. Noyce, Co-founder of Intel Corporation

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## 23. [ss] Power Amplifier question.

From: "Darren King" <illking@sympatico.ca>
Date: Mon, 7 Oct 2002 00:12:10 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-101998-2002.10.06-23.54.22--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Using a device that has a power of 250mW that also is using a FHSS
algorithm for sending and receiving information.  Is it possible to
amplify this signal to 1W?  Does amplification destroy the signal?  The
boards are embedded type and would like to know what it would take to
make the signal reach upto 5Km reliably, I believe 1W should do the
trick either way 1W is my target power since with FHSS that's still
alowd by the FCC.  What types of Power Amplifiers can I add to a circuit
to increase its output power?  Can anybody refer me to some reading on
Power Amplifiers?

Thanks
Darren King

---
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## 24. [ss] Re: 19th TAPR & ARRL 2000 DCC conferrence procedings

From: "P.Gavalas" <ELA97PG@sheffield.ac.uk>
Date: Mon, 7 Oct 2002 13:09:10 +0100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-102024-2002.10.07-07.51.32--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

You can get the proceedings from TAPR (www.tapr.org)
for 15$ I believe.

I 'll check for you though, I am quite far from home (a few thousand
miles away...) and I will be here until late december.
I 'll check and see if I have any backup of the article with me.
If not I may have to photocopy it from the proceedings and send it
you via mail.

Let me just check for today and I'll give you a proper answer
tomorrow.

Best regards,
Panos.

>no luck in finding the 19th TAPR & ARRL 2000 DCC conferrence
>procedings.
>Tried searching on ARRL.  Do you know where I can buy a copy
>or do you
>happen to have a PDF of the article?

--John Battle

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You are currently subscribed to ss as: lyris.ss@tapr.org
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## 25. [ss] Re: 19th TAPR & ARRL 2000 DCC conferrence procedings <LYR30627-102024-2002.10.07-07.51.32--spamdump#optonline.net@lists.tapr.org>

From: spamdump <spamdump@optonline.net>
Date: Mon, 07 Oct 2002 09:29:10 -0400

To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-102031-2002.10.07-09.11.35--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Panos,

If it is not too much trouble, can you send a copy of it to me at
spamdump@optonline.net.

Thanks

-----Original Message-----
From: bounce-ss-30627@lists.tapr.org
[mailto:bounce-ss-30627@lists.tapr.org]On Behalf Of P.Gavalas
Sent: Monday, October 07, 2002 8:09 AM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] Re: 19th TAPR & ARRL 2000 DCC conferrence procedings

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I 'll check for you though, I am quite far from home (a few thousand
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I 'll check and see if I have any backup of the article with me.
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Let me just check for today and I'll give you a proper answer
tomorrow.

Best regards,
Panos.

>no luck in finding the 19th TAPR & ARRL 2000 DCC conferrence
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>Tried searching on ARRL.  Do you know where I can buy a copy
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>happen to have a PDF of the article?

--John Battle

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## 26. [ss] Re: 19th TAPR & ARRL 2000 DCC conferrence procedings <LYR30627-102024-2002.10.07-07.51.32--spamdump#optonline.net@list

From: "P.Gavalas" <ELA97PG@sheffield.ac.uk>
Date: Mon, 7 Oct 2002 17:16:59 +0100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-102050-2002.10.07-11.59.27--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I do not have it as a PDF or any kind of electronic document format.

But the Almighty has arranged us all a solution...

Apparently it is located somewhere on the net.

As soon as I am informed of the url that you can acquire the
document, I 'll let you all know as well.

Best Regards,
Panos.

Date sent:              Mon, 07 Oct 2002 09:29:10 -0400
From:                   spamdump <spamdump@optonline.net>
Subject:                [ss] Re: 19th TAPR & ARRL 2000 DCC conferrence procedings
<LYR30627-102024-2002.10.07-07.51.32--spamdump#optonline.net@lists.tapr.org>
To:                     "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Send reply to:          "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>

[ Double-click this line for list subscription options ]

Panos,

If it is not too much trouble, can you send a copy of it to me at
spamdump@optonline.net.

Thanks


-----Original Message-----
From: bounce-ss-30627@lists.tapr.org
[mailto:bounce-ss-30627@lists.tapr.org]On Behalf Of P.Gavalas
Sent: Monday, October 07, 2002 8:09 AM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] Re: 19th TAPR & ARRL 2000 DCC conferrence procedings


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Best regards,
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>no luck in finding the 19th TAPR & ARRL 2000 DCC conferrence
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>Tried searching on ARRL.  Do you know where I can buy a copy
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>happen to have a PDF of the article?

--John Battle


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## 27. [ss] Re: What path to take...

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Mon, 7 Oct 2002 19:38:05 +0100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-102071-2002.10.07-14.23.15--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I just pulled 20 metres of cat5 into an existing conduit
buried in my garden.

In theory the conduit is sealed (it's the PVC stuff we
use for waste water pipes). It's been buried for over
6 years. Condensation means it will fill up with water,
if there's no way for it to get out, unless you purge it
with dry air...

Indeed it had water in it, as the cables pulled through
came out wet. The conduit is mainly there as protection
against digging. And to make it easier to replace
the wire or put more wire in. It doesn't work as water
protection.

Never attempt to join cables in a buried conduit and
you'll be a much happier person; join them and it'll fail
in 6 months, no matter how you try to protect it. Buy
a big enough reel. If a join is unavoidable bring it to an
above-ground junction-box. Or an inspection chamber
with drainage, like the telephone people do.

My father twice buried mains cables in the garden.
He used surplus cable and pieced it together. And
it always failed in less than a year. I have 3 mains
cables buried in my garden. I always use new
unbroken reels. And they haven't failed in 6 or 7
years. Some moral there...

Remember a Cat5 cabled solution is 100Mb/s vs a
wireless solution... and you can expect to get longer
distances from Cat5 if you derate to 10Mb/s.

Ant

Anyhow, we digress, back to the wireless stuff...

Dunno how many hobbyists had noticed, but
a pair of TP ethernet cards are an ideal start
for a point-to-point RF link. Normally you can
connect them with a length of CAT5 cable. That
cable normally has 4 twisted-pairs. 2 aren't
used (really!), one pair carries balanced Tx
data and one pair carries balanced Rx data.
It's that simple.

Ethernet data is encoded for clock extraction
and to allow for zero response at DC, polarity
inversion and all those things you need for a
wireless link, and the receiver does all necessary
decode. And the cards are common and even
cheap ones have PCI busmastering DMA and
Windows and Linux and DOS drivers... Mine
will even give bad packet statistics etc.

Push that data over an FSK or PSK link and you
have 10Mb/s data wireless. The digital and
software side is done for you, you only have to
think about the RF :-)

---
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## 28. [ss] Reprogramming wireless NICs

From: dubose@texas.net
Date: Mon, 7 Oct 2002 14:07:43 US/Central
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-102073-2002.10.07-14.49.53--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I've heard that some wireless NICs can be reprogrammed if they have eeproms.
Of course it takes someone knowing what they are doing.  But how about buring

your callsign and automatic timer in the NIC along with a different set of
channels do you are not on the Part 15 channels.

Also, how about omni-directional, horz. polerized antennas and 2-10 watt pole
mounted bi-directional amplifiers?  Anyone actively working on these?  Do you
have working models?

If you are working on one of these items, please let me know, I might want to
pick your brain.

Walt/K5YFW

---
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## 29. [ss] Re: What path to take...

From: Jim Sanford <wb4gcs@amsat.org>
Date: Mon, 07 Oct 2002 16:08:03 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-102088-2002.10.07-15.50.27--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

And the RF has been done using 10GHz gunnplexers!

You said it very well...

73,
jim
wb4gcs@amsat.org

Anthony N Martin wrote:
>
> I just pulled 20 metres of cat5 into an existing conduit
> buried in my garden.
>
> In theory the conduit is sealed (it's the PVC stuff we
> use for waste water pipes). It's been buried for over
> 6 years. Condensation means it will fill up with water,
> if there's no way for it to get out, unless you purge it
> with dry air...
>
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> came out wet. The conduit is mainly there as protection
> against digging. And to make it easier to replace
> the wire or put more wire in. It doesn't work as water
> protection.
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> Never attempt to join cables in a buried conduit and
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> with drainage, like the telephone people do.
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>
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>
> Ant
>
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> data and one pair carries balanced Rx data.
> It's that simple.
>
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> inversion and all those things you need for a
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> decode. And the cards are common and even
> cheap ones have PCI busmastering DMA and
> Windows and Linux and DOS drivers... Mine
> will even give bad packet statistics etc.
>
> Push that data over an FSK or PSK link and you
> have 10Mb/s data wireless. The digital and
> software side is done for you, you only have to
> think about the RF :-)
>
> ---
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## 30. [ss] Re: ss digest: October 06, 2002

From: "John Champa" <k8ocl@hotmail.com>
Date: Mon, 07 Oct 2002 16:39:56 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-102092-2002.10.07-16.22.09--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

For those of you who may have missed it, here is the paper Paul and I
submitted to the DCC Proceedings last month.  The HSMM Experimenters Team is
now in the process of setting up a small test network in Howell, MI using a
new protocol we call ARRL 802.11.

73, John - K8OCL


From: "TAPR Spread Spectrum Special Interest Group digest"
<ss@lists.tapr.org>
Reply-To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
To: "ss digest recipients" <ss@lists.tapr.org>
Subject: ss digest: October 06, 2002
Date: Mon, 07 Oct 2002 00:00:28 -0500
Received: from lists.tapr.org ([204.17.217.24]) by mc1-f11.law16.hotmail.com
with Microsoft SMTPSVC(5.0.2195.5600); Sun, 6 Oct 2002 21:20:03 -0700
Precedence: bulk
Message-Id:
<LYR30882-102006-2002.10.07-00.00.28--k8ocl#hotmail.com@lists.tapr.org>
List-Unsubscribe: <mailto:leave-ss-6751T@lists.tapr.org>
List-Software: Lyris Server version 3.0
List-Subscribe: <mailto:subscribe-ss@lists.tapr.org>
List-Owner: <mailto:owner-ss@lists.tapr.org>
X-List-Host: Tucson Amateur Packet Radio <http://www.tapr.org>
Sender: bounce-ss-30882@lists.tapr.org
Return-Path: bounce-ss-30882@lists.tapr.org
X-OriginalArrivalTime: 07 Oct 2002 04:20:05.0049 (UTC)
FILETIME=[CFFA4290:01C26DB8]

TAPR Spread Spectrum Special Interest Group Digest for Sunday, October 06,
2002.

1. Re: What path to take...
2. Re: Designing a  DSSS Correlator
3. RE: Designing a  DSSS Correlator (cont)
<LYR27907-101875-2002.10.05-21.27.38--rwmcgwier#comcast.net@lists.tapr.org>
4. 19th TAPR & ARRL 2000 DCC conferrence procedings
5. Re: 19th TAPR & ARRL 2000 DCC conferrence procedings
6. Power Amplifier question.

---

Subject: Re: What path to take...
From: wchast@utilpart.com
Date: Sun, 6 Oct 2002 08:55:48 -0400
X-Message-Number: 1

I already had to do a run of coax, my office used to have
a cable connection, that cable connection was live though
it had only local channels, all the time I had the place
rented out. When I moved my home office into it I just
moved my cable modem to the cable connection in the office
and things were good, well the cable company came out and
cut the cable, they want me to purchase a separate service
for my cable modem even though all is on the same property.

My fix as just to run 300 ft of coax from the house to the
office and get things back on line, but now I have no net-
work in my home, so back to the drawing board. I had 1K ft
of CATV cable so that was not a problem.

> -----Original Message-----
> From: Walt DuBose [mailto:dubose@texas.net]
> Sent: Saturday, October 05, 2002 10:05 AM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: What path to take...
>
>
> I have used water hose for burial.  Just tape and "pot" the
> connections well.  It doesn't last as long as PVC...maybe only 3
> years.  I can get 1/2" 10 ft  lengths for less than 75
> cents...then kind that is self joining if I buy in lots and I
> think it comes in 30 piece lots.  If you use this method, feed
> only 10 ft of CAT 5 at a time and make the joints as you go.
>
> Walt
>
>
> wchast@utilpart.com wrote:
> >
> > > -----Original Message-----
> > > From: Walt DuBose [mailto:dubose@texas.net]
> > > Sent: Friday, October 04, 2002 11:21 PM
> > > To: TAPR Spread Spectrum Special Interest Group
> > > Subject: [ss] Re: What path to take...
> > > >
> > > >
> > > > Go to
> > > > http://www.linksys.com/Products/product.asp?grid=22&prid=432 and
> > > > download the users guide and look at the network setups.  That
> > > > should answer most of your configuration questions.
> > > >
> > >
> > > Walt,
> > > Thanks, I think that will do the trick, I may have a roll of
> > > CAT 5 to test with, I will just go and get me a WET-11 and
> > > a NIC card for a laptop initially that will get things going
> > > at the house, this may only be the cost of the WET11 and the
> > > NIC...
> > > I got RJ connectors and I think I may have the expensive
> > > CAT 5 within reach...
> > >
> > > I already have a LINKSYS box anyhow so should make it that
> > > much easier.
> > >
> > >
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> ---
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---

Subject: Re: Designing a  DSSS Correlator
From: "P.Gavalas" <ELA97PG@sheffield.ac.uk>
Date: Sun, 6 Oct 2002 14:07:47 +0100
X-Message-Number: 2

Dear all,

It has been a long time but I am back...

Right I see there is quite a lot of "gossiping" on DSSS correlators.

I did manage to build one on my third year in the University of
Sheffield UK and I have published a paper on it including the cct
diagram on the 19th TAPR & ARRL  DCC which took place in
Orlando.

Using a number of shift registers by somehow stickin them
together and then wait to get something out of the cct hoping that
you will actually correlate the 2 signals was my first thought back
then.

I presented the thought by designing a high level block diagram to
my supervisor. He was not very keen with the idea.

Reasons:
1) You need a lot of power.
2) How will you eliminate the huge amounts of noise that will be
there to disguise your signal?
Remember by applying a 2^n-1 code on top of your signal you
effectively scale down your power close to the AGWN level by
spreading your transmitting power over a 2^n-1 wider bandwidth.
Shift registers are too keen with noise (or should I say that much
noise)

You need to slide the local generated code at the receiver faster
than the relative speed of the incoming signal. You need to use a
AM demodulation sceme and when the two codes give maximum
output from your double ballanced mixer you then need to rapidly
change your local codes speed to the incoming signal's speed!!

This can only be done by the use of feedback loops.

Buy the 19th TAPR & ARRL 2000 DCC conferrence procedings go
to page 35 and read it the related paper I once wrote..

Best Regards to all,
Panos Gavalas

---

Subject: RE: Designing a  DSSS Correlator (cont)
<LYR27907-101875-2002.10.05-21.27.38--rwmcgwier#comcast.net@lists.tapr.org>

From: Robert McGwier <rwmcgwier@comcast.net>
Date: Sun, 06 Oct 2002 09:54:54 -0400
X-Message-Number: 3

At what sample offset?  Using whose clock?  You will
have to do some kind of tracking.   With a chipping
rate of (say) 300 kbps, 3e+8/3e+5 = 1 km, so every 500
meters of variation in distance between emitter and
receiver will change the your correlator from sampling
in the optimal place to the worst place and that will hold
only so long as your clocks are synchronous.  They never
will be without extraordinary measures or tracking.

Bob


-----Original Message-----
From: bounce-ss-27907@lists.tapr.org
[mailto:bounce-ss-27907@lists.tapr.org]On Behalf Of John Battle
Sent: Saturday, October 05, 2002 9:44 PM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] Designing a DSSS Correlator (cont)


The thing is, doint it that way requires that I use some sort of slip
generator to acquire cone synchronization.  On the other hand, the parallel
method would sync instantaneously on the first bit.

--John

John,
You don't need a pair of 128 bit registers. Use one xor gate. Feed that into
a counter. Clear the counter at the beginning of the sequence. At the end of
the sequence latch the results.
By the way, hth means "hope that helps".
---
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---

Subject: 19th TAPR & ARRL 2000 DCC conferrence procedings
From: John Battle <john@e6b.com>
Date: Sun, 06 Oct 2002 20:45:04 -0700
X-Message-Number: 4

Panos:

No luck in finding the 19th TAPR & ARRL 2000 DCC conferrence procedings.
Tried searching on ARRL.  Do you know where I can buy a copy or do you
happen to have a PDF of the article?

--John Battle


---

Subject: Re: 19th TAPR & ARRL 2000 DCC conferrence procedings
From: Greg Jones <wd5ivd@tapr.org>
Date: Sun, 6 Oct 2002 22:49:43 -0500
X-Message-Number: 5

TAPR maintains all past proceedings of the conference.

http://www.tapr.org/tapr/html/Fcnc19.html

Cheers - Greg

 >Panos:
 >
 >No luck in finding the 19th TAPR & ARRL 2000 DCC conferrence procedings.
 >Tried searching on ARRL.  Do you know where I can buy a copy or do you
 >happen to have a PDF of the article?
 >
 >--John Battle
 >

--
-----
Dr. Greg Jones
Lecturer, Dept. Technology and Cognition, College of Education
University of North Texas, Denton, Texas

(972) 492-5472 / Fax (972) 492-5476
email: greg@tapr.org
http://created-realities.com

"Don't be encumbered by history... Go off and do something wonderful!"
     -- Robert N. Noyce, Co-founder of Intel Corporation


------------------------------------------------------------------------

Subject: Power Amplifier question.
From: "Darren King" <illking@sympatico.ca>
Date: Mon, 7 Oct 2002 00:12:10 -0400
X-Message-Number: 6

Using a device that has a power of 250mW that also is using a FHSS
algorithm for sending and receiving information.  Is it possible to
amplify this signal to 1W?  Does amplification destroy the signal?  The
boards are embedded type and would like to know what it would take to
make the signal reach upto 5Km reliably, I believe 1W should do the
trick either way 1W is my target power since with FHSS that's still
alowd by the FCC.  What types of Power Amplifiers can I add to a circuit
to increase its output power?  Can anybody refer me to some reading on
Power Amplifiers?

Thanks
Darren King




---

END OF DIGEST

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_____
Chat with friends online, try MSN Messenger: http://messenger.msn.com
[Attachment: IEEE 802assubmitted.doc; application/msword; 43,008 bytes]

## 31. [ss] Re: What path to take...

From: wchast@utilpart.com
Date: Mon, 7 Oct 2002 22:36:56 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-102120-2002.10.07-22.19.16--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Yes, I have a pair of them and the art. that tells how
to do it, but right now I just want to slap something up
and go. I do not want to build too much right now as I
have plenty of projects that I need to get done without
taking on another build.

I have thougth about getting my hands on a couple of laser
fibre xceivers and trying a air optical link....


> -----Original Message-----
> From: Jim Sanford [mailto:wb4gcs@amsat.org]
> Sent: Monday, October 07, 2002 04:08 PM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: What path to take...
>
>
> And the RF has been done using 10GHz gunnplexers!

> 
> You said it very well...
> 
> 73,
> jim
> wb4gcs@amsat.org
> 
> 
> Anthony N Martin wrote:
> >
> > I just pulled 20 metres of cat5 into an existing conduit
> > buried in my garden.
> >
> > In theory the conduit is sealed (it's the PVC stuff we
> > use for waste water pipes). It's been buried for over
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> >
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> >
> > Ant
> >
> > Anyhow, we digress, back to the wireless stuff...
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> > It's that simple.
> >
> > Ethernet data is encoded for clock extraction
> > and to allow for zero response at DC, polarity
> > inversion and all those things you need for a
> > wireless link, and the receiver does all necessary
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> > will even give bad packet statistics etc.
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> >
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## 32. [ss] Re: Designing a DSSS Correlator

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Tue, 8 Oct 2002 11:27:30 +0100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-102154-2002.10.08-06.18.22--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> I am new to the group and would like to get some
> feedback from some of you pros that have already
> "been there".  I am thinking of building a
> correlator using a large PLD.  My approach is to
> make a pair of 127 bit shift registers with XOR's
> between them so that I have 127 outputs which I
> will sum in resistors to obtain an analog correlation
> function.

To do this it means you must turn the output of
your receiver into 1's and 0's before the correlator.

The output of the receiver is analogue and this
means you've quantised it badly.

You'll lose the process gain if you quantise at
this point. If you're aiming to have good processing
gain, you shouldn't be able to detect bits before
the correlator, they'll be down in the noise :-)

You don't want to do the "bit-slicing" until after
the correlator.

To implement such a correlator digitally, you need a
fast ADC providing samples into the correlator.
One side of the correlator doesn't contain just
1's and -1's; it contains digital samples. You would
need an FPGA rather than a PLD. The ADC doesn't need
to have very many bits though. Simulate with
something like Ptolemy (free software) if you
want to know how many bits are necessary.

In most cases, simply generating the PN-code stream
from shift registers and mixing it analogue with
the incoming signal is the way it's done. (Unless
you're planning a full-blown DSP ASIC.) This method
can only correlate one choice of PN-code timing in
each bit-period and must slide sequentially through
all possible timings in order to find lock.

Ant M1FDE

---
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## 33. [ss] Correlator

From: John Battle <john@e6b.com>
Date: Tue, 08 Oct 2002 19:05:06 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-102211-2002.10.08-21.49.07--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Anthony:

Wow!  I finally get it!  This is what I have been struggling to understand
for years and you finally made it clear to me.  I have asked many people
questions about this and you are the first person that said the answer
insuch a way that it made it through my thick skull.

Thanks

--John Battle

To do this it means you must turn the output of
your receiver into 1's and 0's before the correlator.

The output of the receiver is analogue and this
means you've quantised it badly.

You'll lose the process gain if you quantise at
this point. If you're aiming to have good processing
gain, you shouldn't be able to detect bits before
the correlator, they'll be down in the noise :-)

You don't want to do the "bit-slicing" until after
the correlator.

To implement such a correlator digitally, you need a
fast ADC providing samples into the correlator.
One side of the correlator doesn't contain just
1's and -1's; it contains digital samples. You would
need an FPGA rather than a PLD. The ADC doesn't need
to have very many bits though. Simulate with
something like Ptolemy (free software) if you
want to know how many bits are necessary.

In most cases, simply generating the PN-code stream
from shift registers and mixing it analogue with
the incoming signal is the way it's done. (Unless
you're planning a full-blown DSP ASIC.) This method
can only correlate one choice of PN-code timing in
each bit-period and must slide sequentially through
all possible timings in order to find lock.

Ant M1FDE

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 34. [ss] First HSMM Experimenters Team Local Meeting

From: "John Champa" <k8ocl@hotmail.com>
Date: Sun, 13 Oct 2002 16:18:44 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: capnkirk@comcast.net, cuddeback@qwest.net, ekarlk@yahoo.com,
        gerald.sundin@unisys.com, Joseph.Kasser@unisa.edu.au, k8sia@arrl.net,
        kb8qje@yahoo.com, kc8hez@ismi.net, kc8lqa@msn.com, kc8mqk@core.com,
        ke8z@arrl.net, ken@cac.net, kg2ll@arrl.org, kilo.mike@gte.net,
        kpearce1@ix.netcom.com, Mhattarpolice@yahoo.com, mondeau@ameritech.net,
        Morsesat@aol.com, n4kcd@ix.netcom.com, n8wwx_bruce@hotmail.com,
        paulomazzei@smar.com.br, prinaldo@arrl.org, rbeard@browcom.net,
        rgburggraf@juno.com, rjackson@cablespeed.com, Rjdmegargle@aol.com,
        RLC_McLaughlin@hotmail.com, ss@lists.tapr.org,
        stephen.kurtz@unisys.com, tony@axom.com, vanburen@chartermi.net,
        w8ti@provide.net
Message-ID: <LYR6751-102627-2002.10.13-16.01.17--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Neil, et. al.

This Wednesday at 7PM works out OK for Larry and me.  We can decide from there how often we want to repeat the gathering.  Once a week is a bit much for the two of us, but certainly once a month is fine, and maybe even every other week, if the rest of the team agrees to it.

May I make another proposal?  How about we monitor 446.00 MHz FM (National Simplex Calling Frequency), too.  At least until Dave, KE8Z, is feeling better and is in better shape to get his 443.050 repeater up and running.

This is important! Larry may have the very first HSMM mobile rig up and operational very soon, and he will be learning lots of stuff everyday he operates.  We don't want to miss out on that.  Larry can operate 2M and 440 from his van (please resist the temptation to call it our "war-wagon"..that's the Part 15 jargon, OK?...HI...we are higher-class Part 97 licensed types...OK? HI), but  NOT both bands at once.  It's not that I'm concerned with the "repeater police" on the LARK machine, because I am not. It's just that we may need lots of air time on a minute's notice and I'd rather we not bust up a nice, family QSO to get it.  OK?  Most of us monitor the LARK machine all the time anyway, so a quick call to say "Hey, Neil please QSY to 446, OK", etc. would be sufficient to get us out of the way of normal traffic. What do you think?  I am monitoring 446 MHz all the time now, already.

Please feel free to forward this e-mail to others who may be SERIOUSLY interested in HSMM developments.  I can't put everybody officially on the ARRL HSMM WG Reflector, but they are certainly welcomed to join us in the local fun.

Vy 73,
John - K8OCL
HSMM WG Chairman

From: Neil Sablatzky <k8it@cac.net>
To: k8ocl@arrl.net
CC: ekarlk@yahoo.com, kb8qje@yahoo.com, ke8z@arrl.net, rbeard@browcom.net, kc8lqa@msn.com, kpearce1@ix.netcom.com, mondeau@ameritech.net, n4kcd@ix.netcom.com, rjackson@cablespeed.com
Subject: Re: HSMM experimenters Weekly Net?
Date: Sat, 12 Oct 2002 23:49:36 -0400
MIME-Version: 1.0
Received: from xlate2.mailsvcs.arrl.net ([209.224.159.62]) by mc2-f9.law16.hotmail.com with Microsoft SMTPSVC(5.0.2195.5600); Sat, 12 Oct 2002m 20:51:37 -0700
Received: from mail.cac.net ([209.44.14.13])by xlate2.mailsvcs.arrl.net (8.12.3/8.12.3) with ESMTP id g9D3pYIY024812;Sat, 12 Oct 2002 22:51:34 -0500
Received: from cac.net ([12.111.229.156])by mail.cac.net (8.12.3/8.11.3) with ESMTP id g9D3pRNM068703;Sat, 12 Oct 2002 23:51:27 -0400 (EDT)(envelope-from k8it@cac.net)
Message-ID: <3DA8ED50.B41E9902@cac.net>
X-Mailer: Mozilla 4.75 [en] (Win98; U)
X-Accept-Language: en
References: <F38xtniFKULPEhGD1Xy0000026e@hotmail.com>
Return-Path: k8it@cac.net
X-OriginalArrivalTime: 13 Oct 2002 03:51:37.0838 (UTC)
FILETIME=[D4E108E0:01C2726B]

Wednesday's would work..... I always liked the Big Boy (great desserts & coffee)

John Champa wrote:

 > Thursday's are tough with LARK and LARK BoD meetings, for Randy and Ernst
 > and me.  How about Wednesday?  Monday doesn't work for Randy.
 >
 > Looks like the 443.050 is our best bet.  Over coffee would be better. How
 > about Wednesday?  Where's a peaceful place for coffee?
 >
 > John
 >
 > I am not available on Tuesday's. (Scout night) I would suggest maybe Monday
 > evening or maybe Thursday's..... As far as the high speed connection and
 > testing I will be glad to help once I get caught up a bit.....Call me, I
 > might

> find a few minutes on Monday evening.....
> For a meeting, How about in person over coffee?
>
> 73, Neil K8IT
>
> John Champa wrote:
>
> > Hello guys,
> >
> > The ARRL Reflector is great, and this e-mail helps too, but there is
> nothing
> > like a good chat. Larry's recent visit to my QTH to pick up his new
PC
> > wireless card proved that point. We made fast progress!
> >
> > Would it be feasible for us to get together once a week for 20-30
minutes
> to
> > iron things out and keep each other current? Let's say 7PM every
Tuesday
> > evening? Does anybody have a problem with that time?
> >
> > How would you like to do it?
> > Audioconference bridge? Using a 800 or local dial-in number.
> > Two Meter repeater? The LARK .68 is the only one I use.
> > Two Meter Simplex? We are all probably within range.
> > KE8Z has a 440 repeater going up that we could use.
> >
> > Another question!
> >
> > Does anyone have a 100 kbps Internet connection? I would like to
> practice
> > some NetMeeting for text exchange and file transfers. Later we could
try
> > streaming audio and streaming video.
> >
> > John
> > 7340657-1000
> >
> > _____
> > Send and receive Hotmail on your mobile device: http://mobile.msn.com
>
> _____
> Chat with friends online, try MSN Messenger: http://messenger.msn.com

_____
Send and receive Hotmail on your mobile device: http://mobile.msn.com

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 35. [ss] Re: longshot

From: "John Champa" <k8ocl@hotmail.com>
Date: Tue, 15 Oct 2002 09:46:32 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: capnkirk@comcast.net, cuddeback@qwest.net, ekarlk@yahoo.com,
Joseph.Kasser@unisa.edu.au, kc8lqa@msn.com, ke8z@arrl.net,
kpearce1@ix.netcom.com, microwaves@amrad.org, mondeau@ameritech.net,
n4kcd@ix.netcom.com, rbeard@browcom.net, rgburggraf@juno.com,
rjackson@cablespeed.com, ss@lists.tapr.org, tony@axom.com
Message-ID: <LYR6751-102857-2002.10.15-09.29.07--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Larry,

We should watch these folks to see what we can learn from their experince.
Thanks!

Also, your pigtail and my D-Link AP have both arrived so we can start
low-profile ARRL 802.11b testing whenever you're ready!

Kris, are you taking notes? (HI)

73, John

John
check out this page

http://www.oreillynet.com/pub/a/wireless/2001/05/03/longshot.html

I have a laser we could try


Larry kb8qje

_____
Do you Yahoo!?
Faith Hill - Exclusive Performances, Videos & More
http://faith.yahoo.com

_____
Send and receive Hotmail on your mobile device: http://mobile.msn.com

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 36. [ss] 2.4 GHz amp kits (fwd)

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Tue, 15 Oct 2002 09:42:14 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-102879-2002.10.15-10.24.48--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>Date:  Tue Oct 15, 2002  4:05 am
>Subject:  Re: [lcwn] Re: YDI 2440

>Here's something also interesting:
>
>Bi-directional 2.4 GHz amplifier kits from RF Linx:
>http://www.rflinx.com/2.4GHz%20Bi-Directional%20PCB.htm
>
>They're *really* cheap. They look to be based around some WJ ICs.

2 watts available for under $500 if I remember correctly


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 37. [ss] Re: longshot

From: dubose@texas.net
Date: Tue, 15 Oct 2002 11:56:42 US/Central
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-102886-2002.10.15-12.39.15--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

John, et al.

I have run a licensed link out 26 miles and we found that packets were dying at
that distance.  We had to make adjustments for a "slow link" which helped but of
course lowered the thruput.

It WILL indeed be interesting to see what thruput they get on the 21 mile hop.
I am hoping that 802.11 will be better than the protocol that our commercial
licensed equipment used.

Walt


> Larry,
>
> We should watch these folks to see what we can learn from their experince.
> Thanks!

> 
> Also, your pigtail and my D-Link AP have both arrived so we can start
> low-profile ARRL 802.11b testing whenever you're ready!
> 
> Kris, are you taking notes?  (HI)
> 
> 73, John
> 
> 
> John
> check out this page
> 
> http://www.oreillynet.com/pub/a/wireless/2001/05/03/longshot.html
> 
> I have a laser we could try
> 
> 
> Larry kb8qje
> 
> 
> 
> 
> _____________________________________________________
> Do you Yahoo!?
> Faith Hill - Exclusive Performances, Videos & More
> http://faith.yahoo.com
> 
> 
> 
> 
> 
> _____________________________________________________________________
> Send and receive Hotmail on your mobile device: http://mobile.msn.com
> 
> 
> ---
> You are currently subscribed to ss as: dubose@texas.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
> 



---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 38. [ss] Re: 2.4 GHz amp kits (fwd)

From: "Pinfold" <pinfold@xtra.co.nz>
Date: Wed, 16 Oct 2002 07:23:01 +1300
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-102891-2002.10.15-14.07.41--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

How many folk are really intrested in getting some cheap bidirectional amps
?? I have a source in Tiawan that does them up to I think 2 watts out!  if I
had numbers i could try to pry some out of them ,they wanted me to go
through some local agent but stuffed if I want to line his pocket!  any
takers?  Im sure theyd be cheaper than elsewhere but I guess wed need to see
some tech specs first !!  cheers mike ZL1BTB
----- Original Message -----
From: "Steve Lampereur" <kb9mwr@yahoo.com>
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Sent: Wednesday, October 16, 2002 3:42 AM
Subject: [ss] 2.4 GHz amp kits (fwd)


> >Date:  Tue Oct 15, 2002  4:05 am
> >Subject:  Re: [lcwn] Re: YDI 2440
> 
> >Here's something also interesting:
> >
> >Bi-directional 2.4 GHz amplifier kits from RF Linx:
> >http://www.rflinx.com/2.4GHz%20Bi-Directional%20PCB.htm
> >
> >They're *really* cheap. They look to be based around some WJ ICs.
> 
> 2 watts available for under $500 if I remember correctly
> 
> 
> ---

> You are currently subscribed to ss as: PINFOLD@XTRA.CO.NZ
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 39. [ss] Re: longshot

From: Bill Vodall - WA7NWP <wa7nwp@yahoo.com>
Date: Tue, 15 Oct 2002 12:15:13 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-102895-2002.10.15-14.57.48--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>e can start low-profile ARRL 802.11b testing whenever you're ready!

I'm confused.  What's "ARRL" 802.11b?   Aren't  ARRL and SS
somewhat of an oxymoron...

Bill, WA7NWP

PS.  Amusing:  http://www.oxymorons.com/oxymorons.html

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 40. [ss] Re: 2.4 GHz amp kits (fwd)

From: Jim Sanford <wb4gcs@amsat.org>
Date: Tue, 15 Oct 2002 16:04:51 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-102908-2002.10.15-15.47.33--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I'd be interested in 1 or 2 at 2 watts, depending on the price.

73,
Jim
wb4gcs@amsat.org

Pinfold wrote:
>
> How many folk are really intrested in getting some cheap bidirectional amps
> ?? I have a source in Tiawan that does them up to I think 2 watts out!  if I
> had numbers i could try to pry some out of them ,they wanted me to go
> through some local agent but stuffed if I want to line his pocket!  any
> takers?  Im sure theyd be cheaper than elsewhere but I guess wed need to see
> some tech specs first !!  cheers mike ZL1BTB
> ----- Original Message -----
> From: "Steve Lampereur" <kb9mwr@yahoo.com>
> To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
> Sent: Wednesday, October 16, 2002 3:42 AM
> Subject: [ss] 2.4 GHz amp kits (fwd)
>
> > >Date:  Tue Oct 15, 2002  4:05 am
> > >Subject:  Re: [lcwn] Re: YDI 2440
> >
> > >Here's something also interesting:
> > >
> > >Bi-directional 2.4 GHz amplifier kits from RF Linx:
> > >http://www.rflinx.com/2.4GHz%20Bi-Directional%20PCB.htm
> > >
> > >They're *really* cheap. They look to be based around some WJ ICs.
> >
> > 2 watts available for under $500 if I remember correctly
> >
> >
> > ---
> > You are currently subscribed to ss as: PINFOLD@XTRA.CO.NZ
> > To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
> >
> >
>
> ---

> You are currently subscribed to ss as: WB4GCS@AMSAT.ORG
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 41. [ss] Re: longshot

From: Walt DuBose <dubose@texas.net>
Date: Tue, 15 Oct 2002 21:32:35 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-102963-2002.10.15-22.15.13--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Bill Vodall - WA7NWP wrote:
>
> >e can start low-profile ARRL 802.11b testing whenever you're ready!
>
> I'm confused.  What's "ARRL" 802.11b?   Aren't  ARRL and SS
> somewhat of an oxymoron...
>
> Bill, WA7NWP
>

ARRL 802.11 is a subset that members of the ARRL High Speed
MultiMedia working group are working on.  It optimizes the
802.11b standard for amateur radio, Part 97, use on 2.4 GHz.  It
might do such things as redefine the channels, center frequency
and spread, power control, add callsign identification in the
SSID, etc.  The ARRL 802.11 standard is still under development.

Walt/K5YFW

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 42. [ss] Re: longshot <LYR27907-102963-2002.10.15-22.15.13--rwmcgwier#comcast.net@lists.tapr.org>

From: Robert McGwier <rwmcgwier@comcast.net>
Date: Wed, 16 Oct 2002 07:22:44 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103002-2002.10.16-07.05.22--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I think the confusion on Bill's part (and mine frankly) is why
is it the ARRL 802.11b and not the   Walt 802.11b or TAPR 802.11b
or the A802.11b (as in AX.25)?  What is ARRL contributing to your
efforts that makes you want to call it that?  Are they funding you,
giving you lab space, equipment, people?  Frankly, I prefer
A80211.B and if you want that to mean ARRL, so be it.

Bob
N4HY

-----Original Message-----
From: bounce-ss-27907@lists.tapr.org
[mailto:bounce-ss-27907@lists.tapr.org]On Behalf Of Walt DuBose
Sent: Tuesday, October 15, 2002 10:33 PM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] Re: longshot


Bill Vodall - WA7NWP wrote:
>
> >e can start low-profile ARRL 802.11b testing whenever you're ready!
>
> I'm confused.  What's "ARRL" 802.11b?   Aren't  ARRL and SS
> somewhat of an oxymoron...
>
> Bill, WA7NWP
>

ARRL 802.11 is a subset that members of the ARRL High Speed
MultiMedia working group are working on.  It optimizes the
802.11b standard for amateur radio, Part 97, use on 2.4 GHz.  It
might do such things as redefine the channels, center frequency
and spread, power control, add callsign identification in the

SSID, etc.  The ARRL 802.11 standard is still under development.

Walt/K5YFW

---
You are currently subscribed to ss as: rwmcgwier@comcast.net
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 43. [ss] mesh networks

From: "Eric S. Johansson" <esj@harvee.billerica.ma.us>
Date: Wed, 16 Oct 2002 07:50:50 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103004-2002.10.16-07.33.24--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I recently found out about and easily accessible mesh network
implementation that might be applicable to amateur radio use.

http://www.locustworld.com/

its currently closed source but they are talking about making it more open.

I think a mesh network architecture is an essential component for future
radio networking be it amateur, public, or commercial.  In the amateur
world, meshes will help us get around the "king of the hill" problem
that so dominated packet radio (at least here in New England).  With
enough nodes, the mesh can interpret hubris as damage and route around it.

I will be experimenting with it but with only two nodes it will be
difficult to create much of a mesh.  :-) I will report on
success/failure as I muck about.

from my experimentation and listening on various wireless network
experimenters lists, there is a need for a basic bit of CPU and memory
with ethernet and 802.11b sticking out the ends.  In theory, an access
point with flash memory should suffice but we would need a bit more
documentation and "heads up" on changes from a manufacturer before one
could standardize on such a box for modifications.

It seems to me that one of the benefits of TAPR could be negotiation
with some manufacturer of access points etc. for a standard box plus
information that we could purchase either through TAPR or off-the-shelf.

Once we have a standard platform, then we can have a stable base for
experimentation.  Since we are leveraging already designed and built
equipment, they should be none of the delays or challenges of the
previous spread spectrum project.  Granted, we would still be
susceptible to component obsolescence but I'm being blindly optimistic
and hoping it wouldn't be as bad.

another benefit of the standardization would be attention from the part
15 wireless network community.  Since their needs are mostly in
alignment with ours, we could gain additional volume benefits both in
terms of visibility, membership, and experimentation.

---eric ka1eec

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 44. [ss] Re: longshot <LYR27907-102963-2002.10.15-22.15.13--rwmcgwier#comcast.net@lists.tapr.org>

From: Walt DuBose <dubose@texas.net>
Date: Wed, 16 Oct 2002 07:39:35 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103010-2002.10.16-08.22.05--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I guess for the same reason that Dr. Fox called the Padre Island
horny toad he discovered the Fox Toad.

Then name doesn't matter.  Call it Ham 802.11b...who really
cares?  I suppose it is who is working on it can call it what
they want just like naming the horny toad

Robert McGwier wrote:
>
> I think the confusion on Bill's part (and mine frankly) is why
> is it the ARRL 802.11b and not the   Walt 802.11b or TAPR 802.11b
> or the A802.11b (as in AX.25)?  What is ARRL contributing to your
> efforts that makes you want to call it that?  Are they funding you,
> giving you lab space, equipment, people?  Frankly, I prefer
> A80211.B and if you want that to mean ARRL, so be it.
>
> Bob
> N4HY
>
> -----Original Message-----
> From: bounce-ss-27907@lists.tapr.org
> [mailto:bounce-ss-27907@lists.tapr.org]On Behalf Of Walt DuBose
> Sent: Tuesday, October 15, 2002 10:33 PM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: longshot
>
> Bill Vodall - WA7NWP wrote:
> >
> > >e can start low-profile ARRL 802.11b testing whenever you're ready!
> >
> > I'm confused.  What's "ARRL" 802.11b?   Aren't  ARRL and SS
> > somewhat of an oxymoron...
> >
> > Bill, WA7NWP
> >
>
> ARRL 802.11 is a subset that members of the ARRL High Speed
> MultiMedia working group are working on.  It optimizes the
> 802.11b standard for amateur radio, Part 97, use on 2.4 GHz.  It
> might do such things as redefine the channels, center frequency
> and spread, power control, add callsign identification in the
> SSID, etc.  The ARRL 802.11 standard is still under development.
>
> Walt/K5YFW
>
> ---
> You are currently subscribed to ss as: rwmcgwier@comcast.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
> ---
> You are currently subscribed to ss as: dubose@texas.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 45. [ss] Re: mesh networks

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Wed, 16 Oct 2002 19:34:13 +0100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103062-2002.10.16-14.17.14--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> from my experimentation and listening on various wireless network
> experimenters lists, there is a need for a basic bit of CPU and memory
> with ethernet and 802.11b sticking out the ends.  In theory, an access
> point with flash memory should suffice but we would need a bit more
> documentation and "heads up" on changes from a manufacturer before one
> could standardize on such a box for modifications.

OpenAP - http://opensource.instant802.com/

They found a hardware platform that is sufficiently
standard and common. It's a board with AMD x86 CPU,
RAM, Flash, PCMCIA WLAN card, and Realtek ethernet
controller. Sold in several disguises as a WLAN AP.

And it supports an existing software develoment

platform, device drivers, protocol stacks etc (linux)

Don't know how long it'll be about though, now that
AP functionality has been put in the WLAN baseband
chipsets.

But the concept of meshes with omni antennas
assumes a sufficient density of amateurs of
one every 100 metre square in urban areas.
(assuming WLAN 802.11 type devices) I don't think
this can be met at present.

A mesh with say 4 small yagis and APs for each
(ie. 4 point-to-point links) could be built
at one amateur per 2km, much more realistic.
This requires mesh packet routing but on-air
involves no special mesh protocols.

To do dynamic mesh packet routing between APs the use
(maybe slight abuse) of the RIP protocol and the
"routed" or "gated" daemon might do the trick. RIP
networks are said to be limited to 15 hops, but I
suspect it's limited by bandwidth consumed by RIP
info, how much memory you have to store routing tables,
and how much CPU you spend searching them for each
packet.

http://www.freesoft.org/CIE/Topics/90.htm
http://www.mcsr.olemiss.edu/cgi-bin/man-cgi?gated
http://www.mcsr.olemiss.edu/cgi-bin/man-cgi?routed

There is, of course, no need to be an amateur to
join a WLAN-based mesh network, so getting the
required numbers of people involved from a community
may be less of a problem if you retain unlicenced
status.

If amateurs are suggesting an "amateur" ammendment
to the 802.11 protocol to support licence compliance
it would seem desirable that it have a feature set
that made it internationally acceptable, rather than
just "FCC" or "ARRL band plan" acceptable. This is
from the POV that a standard is best if there's only
one of them, and people do like dxpeditions.
The amateur radio market is small enough as it is,
without different standards for each nation.

I was chatting with someone yesterday who said 23cm
transceivers were cheap in Japan but there was a
problem importing them as they use 20kHz channels...
and we don't.

By not talking to each other over standards, we do
tend to shoot ourselves in the foot. There would be
a lot more cheaper gear if we did.

Ant

---
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## 46. [ss] The ARRL 802.11b Standard

From: "John Champa" <k8ocl@hotmail.com>
Date: Thu, 17 Oct 2002 02:25:48 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: cuddeback@qwest.net, ekarlk@yahoo.com, k8it@cac.net, kb8qje@yahoo.com,
ke8z@arrl.net, kpearce1@ix.netcom.com, prinaldo@arrl.org,
rbeard@browcom.net, rjackson@cablespeed.com, tony@axom.com
Message-ID: <LYR6751-103150-2002.10.17-02.08.31--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Bob,

Nice to hear from you.  I think Walt's response was excellent, but here are some additional details....

YES, is the answer to all your questions.  The ARRL in general, and the ARRL Technology Task Force in particular, is heavily supporting our efforts, including Ed at the lab, so the new protocol's title is most appropriate. Weber State is loaning equipment, too, but none of the members of the WG which includes a Weber State prof. objected to the proposal to call the standard after the ARRL. And, why not?  The IEEE is just as much a mouth full! (HI)

Guess we could have called it the QRP .... (HI), because we have been using mostly 100 mW and less gear during most of our early mesh network testing, and currently our most powerful bi-directional amplifier on the experimental network has an average RF output of only 500 mW.  However, we'd better stick with the ARRL 802.11b title, as we have a "mighty" 2 watt bi-directional amplifier which one of the members of the HSMM Experimenters Team was going to discuss at tonight's meeting, but he was called oof to work...can you believe that! (HI).  Hopefully it will be developed in time to be included in a series of spread spectrum articles for QST we are planning for the near future.

Also, we plan to devote an entire chapter in the new "ARRL High Speed Multimedia Digital Spread Spectrum Handbook" (or something like that) being drafted in conjunction with Weber State, to the new ARRL 802.11b spread spectrum standard.  The attached DCC paper provides some early background thoughts.  This probably all reads rather weird to the old time SS folks, but times do change, don't they!

Hope that answers your question of why the new standard is called ARRL 802.11.

73, John - K8OCL
Chairman, ARRL High Speed Multimedia Working Group

From: "TAPR Spread Spectrum Special Interest Group digest" <ss@lists.tapr.org>
Reply-To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
To: "ss digest recipients" <ss@lists.tapr.org>
Subject: ss digest: October 16, 2002
Date: Thu, 17 Oct 2002 00:00:43 -0500

TAPR Spread Spectrum Special Interest Group Digest for Wednesday, October 16, 2002.

1. Re: longshot
<LYR27907-102963-2002.10.15-22.15.13--rwmcgwier#comcast.net@lists.tapr.org>
2. mesh networks
3. Re: longshot
<LYR27907-102963-2002.10.15-22.15.13--rwmcgwier#comcast.net@lists.tapr.org>
4. Re: mesh networks

---

Subject: Re: longshot
<LYR27907-102963-2002.10.15-22.15.13--rwmcgwier#comcast.net@lists.tapr.org>
From: Robert McGwier <rwmcgwier@comcast.net>
Date: Wed, 16 Oct 2002 07:22:44 -0400
X-Message-Number: 1

I think the confusion on Bill's part (and mine frankly) is why is it the ARRL 802.11b and not the   Walt 802.11b or TAPR 802.11b or the A802.11b (as in AX.25)?  What is ARRL contributing to your efforts that makes you want to call it that?  Are they funding you, giving you lab space, equipment, people?  Frankly, I prefer A80211.B and if you want that to mean ARRL, so be it.

Bob
N4HY

-----Original Message-----
From: bounce-ss-27907@lists.tapr.org

[mailto:bounce-ss-27907@lists.tapr.org]On Behalf Of Walt DuBose
Sent: Tuesday, October 15, 2002 10:33 PM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] Re: longshot


Bill Vodall - WA7NWP wrote:
 >
 > >e can start low-profile ARRL 802.11b testing whenever you're ready!
 >
 > I'm confused.  What's "ARRL" 802.11b?   Aren't  ARRL and SS
 > somewhat of an oxymoron...
 >
 > Bill, WA7NWP
 >

ARRL 802.11 is a subset that members of the ARRL High Speed
MultiMedia working group are working on.  It optimizes the
802.11b standard for amateur radio, Part 97, use on 2.4 GHz.  It
might do such things as redefine the channels, center frequency
and spread, power control, add callsign identification in the
SSID, etc.  The ARRL 802.11 standard is still under development.

Walt/K5YFW

---
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---

Subject: mesh networks
From: "Eric S. Johansson" <esj@harvee.billerica.ma.us>
Date: Wed, 16 Oct 2002 07:50:50 -0400
X-Message-Number: 2

I recently found out about and easily accessible mesh network
implementation that might be applicable to amateur radio use.

http://www.locustworld.com/

its currently closed source but they are talking about making it more open.

I think a mesh network architecture is an essential component for future
radio networking be it amateur, public, or commercial.  In the amateur
world, meshes will help us get around the "king of the hill" problem
that so dominated packet radio (at least here in New England).  With
enough nodes, the mesh can interpret hubris as damage and route around it.

I will be experimenting with it but with only two nodes it will be
difficult to create much of a mesh.  :-) I will report on
success/failure as I muck about.

from my experimentation and listening on various wireless network
experimenters lists, there is a need for a basic bit of CPU and memory
with ethernet and 802.11b sticking out the ends.  In theory, an access
point with flash memory should suffice but we would need a bit more
documentation and "heads up" on changes from a manufacturer before one
could standardize on such a box for modifications.

It seems to me that one of the benefits of TAPR could be negotiation
with some manufacturer of access points etc. for a standard box plus
information that we could purchase either through TAPR or off-the-shelf.

Once we have a standard platform, then we can have a stable base for
experimentation.  Since we are leveraging already designed and built
equipment, they should be none of the delays or challenges of the
previous spread spectrum project.  Granted, we would still be
susceptible to component obsolescence but I'm being blindly optimistic
and hoping it wouldn't be as bad.

another benefit of the standardization would be attention from the part
15 wireless network community.  Since their needs are mostly in
alignment with ours, we could gain additional volume benefits both in
terms of visibility, membership, and experimentation.

---eric ka1eec

---

Subject: Re: longshot
<LYR27907-102963-2002.10.15-22.15.13--rwmcgwier#comcast.net@lists.tapr.org>
From: Walt DuBose <dubose@texas.net>
Date: Wed, 16 Oct 2002 07:39:35 -0500
X-Message-Number: 3

I guess for the same reason that Dr. Fox called the Padre Island
horny toad he discovered the Fox Toad.

Then name doesn't matter.  Call it Ham 802.11b...who really
cares?  I suppose it is who is working on it can call it what
they want just like naming the horny toad

Robert McGwier wrote:
 >
 > I think the confusion on Bill's part (and mine frankly) is why
 > is it the ARRL 802.11b and not the   Walt 802.11b or TAPR 802.11b
 > or the A802.11b (as in AX.25)?  What is ARRL contributing to your
 > efforts that makes you want to call it that?  Are they funding you,
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 > Bob
 > N4HY
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 > From: bounce-ss-27907@lists.tapr.org
 > [mailto:bounce-ss-27907@lists.tapr.org]On Behalf Of Walt DuBose
 > Sent: Tuesday, October 15, 2002 10:33 PM
 > To: TAPR Spread Spectrum Special Interest Group
 > Subject: [ss] Re: longshot
 >
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 > >
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 >
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 > 802.11b standard for amateur radio, Part 97, use on 2.4 GHz.  It
 > might do such things as redefine the channels, center frequency
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 > Walt/K5YFW
 >
 > ---
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 >
 > ---
 > You are currently subscribed to ss as: dubose@texas.net
 > To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---

Subject: Re: mesh networks
From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Wed, 16 Oct 2002 19:34:13 +0100
X-Message-Number: 4

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(assuming WLAN 802.11 type devices) I don't think
this can be met at present.

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This requires mesh packet routing but on-air
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suspect it's limited by bandwidth consumed by RIP
info, how much memory you have to store routing tables,
and how much CPU you spend searching them for each
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http://www.mcsr.olemiss.edu/cgi-bin/man-cgi?gated
http://www.mcsr.olemiss.edu/cgi-bin/man-cgi?routed

There is, of course, no need to be an amateur to
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I was chatting with someone yesterday who said 23cm
transceivers were cheap in Japan but there was a
problem importing them as they use 20kHz channels...
and we don't.

By not talking to each other over standards, we do
tend to shoot ourselves in the foot. There would be
a lot more cheaper gear if we did.

Ant

---

END OF DIGEST

---
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_____
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http://resourcecenter.msn.com/access/plans/2monthsfree.asp
[Attachment: IEEE 802assubmitted.doc; application/msword; 43,008 bytes]

## 47. [ss] RE: The ARRL 802.11b Standard <LYR27907-103150-2002.10.17-02.08.31--rwmcgwier#comcast.net@lists.tapr.org>

From: Robert McGwier <rwmcgwier@comcast.net>
Date: Thu, 17 Oct 2002 09:44:30 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103187-2002.10.17-09.27.08--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Terrific.  I stand corrected.  ARRL 802.11b it is.

Bob

-----Original Message-----
From: bounce-ss-27907@lists.tapr.org
[mailto:bounce-ss-27907@lists.tapr.org]On Behalf Of John Champa
Sent: Thursday, October 17, 2002 2:26 AM
To: TAPR Spread Spectrum Special Interest Group
Cc: cuddeback@qwest.net; ekarlk@yahoo.com; k8it@cac.net;
kb8qje@yahoo.com; ke8z@arrl.net; kpearce1@ix.netcom.com;
prinaldo@arrl.org; rbeard@browcom.net; rjackson@cablespeed.com;
tony@axom.com
Subject: [ss] The ARRL 802.11b Standard

Bob,

Nice to hear from you.  I think Walt's response was excellent, but here are
some additional details....

YES, is the answer to all your questions.  The ARRL in general, and the ARRL
Technology Task Force in particular, is heavily supporting our efforts,
including Ed at the lab, so the new protocol's title is most appropriate.
Weber State is loaning equipment, too, but none of the members of the WG
which includes a Weber State prof. objected to the proposal to call the
standard after the ARRL. And, why not?  The IEEE is just as much a mouth
full! (HI)

Hope that answers your question of why the new standard is called ARRL
802.11.

73, John - K8OCL
Chairman, ARRL High Speed Multimedia Working Group

---
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## 48. [ss] RE: The ARRL 802.11b Standard

From: "Steven Bible" <n7hpr@tapr.org>
Date: Thu, 17 Oct 2002 07:45:59 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103196-2002.10.17-10.28.37--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Everyone,

Better check with the lawyers (real ones), the term "IEEE 802" is a
registered trademark of the IEEE.

(And I am not a lawyer) the name "ARRL 802.11b" alters that trademark and I
don't believe this is going to work.

- Steve, N7HPR
  (n7hpr@tapr.org)

> -----Original Message-----
> From: bounce-ss-5189@lists.tapr.org
> [mailto:bounce-ss-5189@lists.tapr.org]On Behalf Of Robert McGwier
> Sent: Thursday, October 17, 2002 6:45 AM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] RE: The ARRL 802.11b Standard
> <LYR27907-103150-2002.10.17-02.08.31--rwmcgwier#comcast.net@lists.tapr.o
> rg>
>
>
>
> Terrific.  I stand corrected.  ARRL 802.11b it is.
>
> Bob
>
> -----Original Message-----
> From: bounce-ss-27907@lists.tapr.org
> [mailto:bounce-ss-27907@lists.tapr.org]On Behalf Of John Champa
> Sent: Thursday, October 17, 2002 2:26 AM
> To: TAPR Spread Spectrum Special Interest Group
> Cc: cuddeback@qwest.net; ekarlk@yahoo.com; k8it@cac.net;
> kb8qje@yahoo.com; ke8z@arrl.net; kpearce1@ix.netcom.com;
> prinaldo@arrl.org; rbeard@browcom.net; rjackson@cablespeed.com;
> tony@axom.com
> Subject: [ss] The ARRL 802.11b Standard
>
>
> Bob,
>
> Nice to hear from you.  I think Walt's response was excellent,
> but here are
> some additional details....
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> YES, is the answer to all your questions.  The ARRL in general,
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> Weber State is loaning equipment, too, but none of the members of the WG
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> Hope that answers your question of why the new standard is called ARRL
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>
> 73, John - K8OCL
> Chairman, ARRL High Speed Multimedia Working Group
>
>
>
>
>
>
>
> ---
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> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>

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You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 49. [ss] RE: The ARRL 802.11b Standard

From: "John Champa" <k8ocl@hotmail.com>
Date: Thu, 17 Oct 2002 10:56:00 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103202-2002.10.17-10.38.40--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Not likely....

From: "Steven Bible" <n7hpr@tapr.org>
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
CC: <k8ocl@hotmail.com>
Subject: RE: [ss] RE: The ARRL 802.11b Standard
Date: Thu, 17 Oct 2002 07:46:37 -0700

Everyone,

Better check with the lawyers (real ones), the term "IEEE 802" is a
registered trademark of the IEEE.

(And I am not a lawyer) the name "ARRL 802.11b" alters that trademark and I
don't believe this is going to work.

- Steve, N7HPR
   (n7hpr@tapr.org)

> -----Original Message-----
> From: bounce-ss-5189@lists.tapr.org
> [mailto:bounce-ss-5189@lists.tapr.org]On Behalf Of Robert McGwier
> Sent: Thursday, October 17, 2002 6:45 AM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] RE: The ARRL 802.11b Standard
> <LYR27907-103150-2002.10.17-02.08.31--rwmcgwier#comcast.net@lists.tapr.o
> rg>
>
>
>
> Terrific.  I stand corrected.  ARRL 802.11b it is.
>
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> [mailto:bounce-ss-27907@lists.tapr.org]On Behalf Of John Champa
> Sent: Thursday, October 17, 2002 2:26 AM
> To: TAPR Spread Spectrum Special Interest Group
> Cc: cuddeback@qwest.net; ekarlk@yahoo.com; k8it@cac.net;
> kb8qje@yahoo.com; ke8z@arrl.net; kpearce1@ix.netcom.com;
> prinaldo@arrl.org; rbeard@browcom.net; rjackson@cablespeed.com;
> tony@axom.com
> Subject: [ss] The ARRL 802.11b Standard
>
>
> Bob,
>
> Nice to hear from you.  I think Walt's response was excellent,
> but here are
> some additional details....
>
> YES, is the answer to all your questions.  The ARRL in general,
> and the ARRL
> Technology Task Force in particular, is heavily supporting our efforts,
> including Ed at the lab, so the new protocol's title is most appropriate.
> Weber State is loaning equipment, too, but none of the members of the WG
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>
> 73, John - K8OCL
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>
>
>
>
>
>
> ---
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## 50. [ss] RE: The ARRL 802.11b Standard

From: dubose@texas.net
Date: Thu, 17 Oct 2002 10:11:58 US/Central
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103208-2002.10.17-10.54.34--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve,

You certainly have a good point and the League has a very good attorney on
staff and some great attonies as members.

My contracting experience tells me that if you change the trademark by over 1/3
you are probably Ok as long as it helps identify your product with another
product.  But that only applies to products that are being sold.  If the League
is not selling a product, only using the "name" to make identification of a
subset of a standard, I don't think there is a problem.  If however, the ARRL
sells the protocol, then there might be a problem.

We could call it "802.11 Optimized for the ARRL" (Keyword ARRL802.11).

Ok, I'm leaving for the contracting new year's picinc now...its FY03.

Walt

PS, don't Xerox this.

> Everyone,
>
> Better check with the lawyers (real ones), the term "IEEE 802" is a
> registered trademark of the IEEE.
>
> (And I am not a lawyer) the name "ARRL 802.11b" alters that trademark and I
> don't believe this is going to work.
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> > Subject: [ss] RE: The ARRL 802.11b Standard
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> > [mailto:bounce-ss-27907@lists.tapr.org]On Behalf Of John Champa
> > Sent: Thursday, October 17, 2002 2:26 AM
> > To: TAPR Spread Spectrum Special Interest Group
> > Cc: cuddeback@qwest.net; ekarlk@yahoo.com; k8it@cac.net;
> > kb8qje@yahoo.com; ke8z@arrl.net; kpearce1@ix.netcom.com;
> > prinaldo@arrl.org; rbeard@browcom.net; rjackson@cablespeed.com;
> > tony@axom.com
> > Subject: [ss] The ARRL 802.11b Standard
> >

> >
> > Bob,
> >
> > Nice to hear from you.  I think Walt's response was excellent,
> > but here are
> > some additional details....
> >
> > YES, is the answer to all your questions.  The ARRL in general,
> > and the ARRL
> > Technology Task Force in particular, is heavily supporting our efforts,
> > including Ed at the lab, so the new protocol's title is most appropriate.
> > Weber State is loaning equipment, too, but none of the members of the WG
> > which includes a Weber State prof. objected to the proposal to call the
> > standard after the ARRL. And, why not?  The IEEE is just as much a mouth
> > full! (HI)
> >
> >
> > Hope that answers your question of why the new standard is called ARRL
> > 802.11.
> >
> > 73, John - K8OCL
> > Chairman, ARRL High Speed Multimedia Working Group
> >
> >
> >
> >
> >
> >
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> You are currently subscribed to ss as: dubose@texas.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
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## 51. [ss] RE: The ARRL 802.11b Standard

From: "John Champa" <k8ocl@hotmail.com>
Date: Thu, 17 Oct 2002 11:28:44 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103209-2002.10.17-11.11.21--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve,

Sorry, not trying to be curt.  It's just a handle so we can discuss
differences between the two.  We don't plan to copywrite, trade mark, or
service mark anything.  And so, far IEEE doesn't seem to care as we are not
in the for-profit business either.  We'll see.

More to the point, how should ARRL 802.11b differ from it's namesake???
Now, there we could use some suggestions!

Thanks and 73,
John - K8OCL

From: "Steven Bible" <n7hpr@tapr.org>
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
CC: <k8ocl@hotmail.com>
Subject: RE: [ss] RE: The ARRL 802.11b Standard
Date: Thu, 17 Oct 2002 07:46:37 -0700

Everyone,

Better check with the lawyers (real ones), the term "IEEE 802" is a

registered trademark of the IEEE.

(And I am not a lawyer) the name "ARRL 802.11b" alters that trademark and I
don't believe this is going to work.

- Steve, N7HPR
   (n7hpr@tapr.org)

> -----Original Message-----
> From: bounce-ss-5189@lists.tapr.org
> [mailto:bounce-ss-5189@lists.tapr.org]On Behalf Of Robert McGwier
> Sent: Thursday, October 17, 2002 6:45 AM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] RE: The ARRL 802.11b Standard
> <LYR27907-103150-2002.10.17-02.08.31--rwmcgwier#comcast.net@lists.tapr.o
> rg>
>
>
>
> Terrific.  I stand corrected.  ARRL 802.11b it is.
>
> Bob
>
> -----Original Message-----
> From: bounce-ss-27907@lists.tapr.org
> [mailto:bounce-ss-27907@lists.tapr.org]On Behalf Of John Champa
> Sent: Thursday, October 17, 2002 2:26 AM
> To: TAPR Spread Spectrum Special Interest Group
> Cc: cuddeback@qwest.net; ekarlk@yahoo.com; k8it@cac.net;
> kb8qje@yahoo.com; ke8z@arrl.net; kpearce1@ix.netcom.com;
> prinaldo@arrl.org; rbeard@browcom.net; rjackson@cablespeed.com;
> tony@axom.com
> Subject: [ss] The ARRL 802.11b Standard
>
>
> Bob,
>
> Nice to hear from you.  I think Walt's response was excellent,
> but here are
> some additional details....
>
> YES, is the answer to all your questions.  The ARRL in general,
> and the ARRL
> Technology Task Force in particular, is heavily supporting our efforts,
> including Ed at the lab, so the new protocol's title is most appropriate.
> Weber State is loaning equipment, too, but none of the members of the WG
> which includes a Weber State prof. objected to the proposal to call the
> standard after the ARRL. And, why not?  The IEEE is just as much a mouth
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> Hope that answers your question of why the new standard is called ARRL
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> 73, John - K8OCL
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>
>
>
>
>
> ---
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## 52. [ss] RE: The ARRL 802.11b Standard

From: "Jeff Edmonson" <w5omr@w5omr.shacknet.nu>
Date: Thu, 17 Oct 2002 11:41:44 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103219-2002.10.17-12.24.43--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Everyone,
>
> Better check with the lawyers (real ones), the term "IEEE 802" is a
> registered trademark of the IEEE.
>
> (And I am not a lawyer) the name "ARRL 802.11b" alters that trademark and I
> don't believe this is going to work.
>
> - Steve, N7HPR
>   (n7hpr@tapr.org)

no no no...
That's like saying I can't have a business named "Jeff's Fatso Burgers" because
there's a
"Jack's Fatso Burgers" out there already that's registered.  The two
are -different-.

If the term "IEEE 802" is registered, then it'd be different from "ARRL
7802.11b".

73 = Best Regards,
-=Jeff/W5OMR=-

---
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## 53. [ss] ARRL 802.11b Standard Development Support Request

From: "John Champa" <k8ocl@hotmail.com>
Date: Thu, 17 Oct 2002 15:44:34 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: kilo.mike@gte.net
Message-ID: <LYR6751-103250-2002.10.17-15.27.15--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve,

Bless you, sir, for getting us back on track.

So, here are some of the parameters we have tentatively established so far
regarding what we as Hams should be doing with the Part 97 application of
the technology:

--Operation only on a center frequency of 2437 Mhz (Channel 6 under Part 15)
for both stations and nodes.  RATIONALE:  Use of this frequency keeps the
outside edge of the 22 MHz wide DSSS  away from the upper end of the Ham
band, and it puts as much of the signal as possible within the portion of
the 2.4 GHz Ham band allocated according to the ARRL band plan for use by
digital spread spectrum.  The roughly other half of the signal would occupy
a currently un-used satellite sub-band and an ATV channel.  This keeps the
packets away from the weak signal work and the AO-40 operations at the other
end of the band.  NOTE:  The HSMM Experimenters Team has filed for repeater
coordination with the Michigan Area Repeater Council (MARC) for use of the
2437 MHz center frequency for temporary experimental purposes.
--No encryption of any kind shall be used, e.g., the AP's USB Config Utility
should set the encryption to "disable".
--The AP Name and/or the wireless ESSID should be set to the station's
amateur callsign as issued by the FCC (all caps).
--Use of horizontally polarized antennas shall be the norm (most Part 15
users have vertically polarized antennas).
--Access filter(s) shall be employed to accept packets only with an
identifiable amateur callsign in some frame of the header.
--Automatic RF power control must be used whenever RF power output over 1
watt is employed.  This automatic control methodology should be of the most
simple design possible, e.g. whenever the fragmentation threshold and/or RTS
threshold reaches a certain upper limit, the RF power output shall be
decreased by 3 dB, etc.
-- RF power output in excess of 100 watts is not acceptable.

Well, it's not much, but that is about how far we have gotten...in writing,

at least.  Additional constructive input to the protocol design would be most welcomed.  The ARRL HSMM WG member responsible for protocol development is Kris Mraz, N5KM, [kilo.mike@gte.net].  Kris is working up a "Call for Papers" to be published soon requesting specific design, software, etc. input from the amateur community in the development of a suitable protocol, exactly as the early AX.25 Team did years ago.  So TAPR can take this as a pre-call call for help!  (HI).

Thanks and vy 73,
John Champa - K8OCL
Chairman, ARRL HSMM Working Group

From: "Steven Bible"<srbible@earthlink.net>
Reply-To: n7hpr@tapr.org
To: TAPR Spread Spectrum Special Interest Group <ss@lists.tapr.org>
CC: k8ocl@hotmail.com
Subject: Re: [ss] RE: The ARRL 802.11b Standard
Date: Thu, 17 Oct 2002 10:26:29 -0700

Everyone,

Now the topic is degenerating.  That's not what I ment when I sent the post. It was ment to be a friendly help and backup.  Let's get off this topic as it
is not technical in nature.

This is the SS list, it is better that a discussion of what the proposed protocol is and discuss the technical merits.  Let's not waste the bandwidth on trival matters such as naming and handles.  It's what's inside that counts.

...back to our regularly scheduled "technical" program...

73,

- Steve N7HPR

On Thu, 17 Oct 2002 11:41:44 -0500 Jeff Edmonson <w5omr@w5omr.shacknet.nu> wrote:

> 
> 
> > Everyone,
> > 
> > Better check with the lawyers (real ones),
> the term "IEEE 802" is a
> > registered trademark of the IEEE.
> > 
> > (And I am not a lawyer) the name "ARRL
> 802.11b" alters that trademark and I
> > don't believe this is going to work.
> > 
> > - Steve, N7HPR
> >   (n7hpr@tapr.org)
> 
> no no no...
> That's like saying I can't have a business
> named "Jeff's Fatso Burgers" because
> there's a
> "Jack's Fatso Burgers" out there already that's
> registered.  The two
> are -different-.
> 
> If the term "IEEE 802" is registered, then it'd
> be different from "ARRL
> 7802.11b".
> 
> 73 = Best Regards,
> -=Jeff/W5OMR=-
> 
> 

> 
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## 54. [ss] RE: ARRL 802.11b Standard Development Support Request

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Fri, 18 Oct 2002 09:39:59 +1000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: kilo.mike@gte.net
Message-ID: <LYR6751-103294-2002.10.17-19.22.42--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> --No encryption of any kind shall be used, e.g., the AP's USB
> Config Utility
> should set the encryption to "disable".
> --The AP Name and/or the wireless ESSID should be set to the
> station's
> amateur callsign as issued by the FCC (all caps).
> --Use of horizontally polarized antennas shall be the norm
> (most Part 15
> users have vertically polarized antennas).

One thing I haven't seen addressed here is authentication.  MAC based
filtering isn't really good enough, as anyone with a bit of knowledge (and
most of these people are running systems such as Linux, where a new MAC
address is only an iwconfig away) would be easily able to jump onto the
network.  There's actually a large number of technically aware people
getting into 802.11b these days.  Most (at least here) would be likely to
respect the ham network - in fact, I have a number of them expressing
varying degrees of interest in getting their ticket, and these people have a
similar experimentally minded attitude and like to tinker with antennas,
protocols and the like.  I (and a few other hams) are personally involved
with some of these groups, because they have a lot in common with us, and I
feel they represent where the next generation of ham is going to come from.

Setting the ESSID to the amateur callsign would break things (since the
ESSID defines the scope of the network), from what I understand, but you
could set the station name and/or MAC address to the amateur callsign
easily.  I wouldn't want to see frequent network violations lead to an end
to the band sharing arrangement (hams would be the ones who'd have to move),
but instead would rather like to see if we can develop a way to be
reasonably secure (from non ham access), while sharing the band with
everyone else.

Just a few first impression thoughts.

---
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Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.401 / Virus Database: 226 - Release Date: 9/10/2002

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## 55. [ss] RE: The ARRL 802.11b Standard

From: "Steven Bible" <n7hpr@tapr.org>
Date: Thu, 17 Oct 2002 19:45:12 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103311-2002.10.17-22.27.54--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Lyris didn't like me posting from the web. Here's what I sent earlier today. I'm sure everyone saw it in John's reply. This is to close the loop(hole).

73,

- Steve N7HPR

---

Everyone,

Now the topic is degenerating. That's not what I ment when I sent the post. It was ment to be a friendly help and backup. Let's get off this topic as it
is not technical in nature.

This is the SS list, it is better that a discussion of what the proposed protocol is and discuss the technical merits. Let's not waste the bandwidth on trival matters such as naming and handles. It's what's inside that counts.

...back to our regularly scheduled "technical" program...

73,

- Steve N7HPR

On Thu, 17 Oct 2002 11:41:44 -0500 Jeff Edmonson <w5omr@w5omr.shacknet.nu> wrote:

> > > Everyone,
> > > Better check with the lawyers (real ones),
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> > (n7hpr@tapr.org)
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> 7802.11b".
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> -=Jeff/W5OMR=-
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## 56. [ss] Re: mesh networks

From: "Eric S. Johansson" <esj@harvee.billerica.ma.us>
Date: Fri, 18 Oct 2002 08:13:17 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103362-2002.10.18-07.55.59--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Anthony N Martin wrote:
> OpenAP - http://opensource.instant802.com/
>
> They found a hardware platform that is sufficiently
> standard and common. It's a board with AMD x86 CPU,
> RAM, Flash, PCMCIA WLAN card, and Realtek ethernet
> controller. Sold in several disguises as a WLAN AP.
>
> And it supports an existing software develoment
> platform, device drivers, protocol stacks etc (linux)
>
> Don't know how long it'll be about though, now that
> AP functionality has been put in the WLAN baseband
> chipsets.

I was aware that project.  However, my point still remains that TAPR
should probably look at either adopting, negotiating for extra life,
etc. whatever it takes to bring this kind of standard platform into the
amateur community.  Think of it as the spread spectrum version of a TNC.


> But the concept of meshes with omni antennas
> assumes a sufficient density of amateurs of
> one every 100 metre square in urban areas.
> (assuming WLAN 802.11 type devices) I don't think
> this can be met at present.
>
> A mesh with say 4 small yagis and APs for each
> (ie. 4 point-to-point links) could be built
> at one amateur per 2km, much more realistic.
> This requires mesh packet routing but on-air
> involves no special mesh protocols.

I respectfully disagree.  No matter what the antenna design, a self
organizing mesh network will make it easier for less technical hams to
participate and can help reduce a some of the routing politics so common
in the packet networks.

also, I have a sneaking suspicion that you live where there are no
trees.  ;-) at my QTH, I can see four neighbors out of 15.  In order to
see more than a few hundred meters, I would need to put up at least 90
foot tower.  Most of my neighbors would also need to put up 90 foot
tower's just to be able to see me.  As for the proposed two kilometer
paths, at 0.3 DB per meter attenuation from trees, a 2km path typically
has about 200db to 300 DB loss in this neighborhood above and beyond any
free space or cable losses.  sucks to be me on 2.4ghz.

> There is, of course, no need to be an amateur to
> join a WLAN-based mesh network, so getting the
> required numbers of people involved from a community
> may be less of a problem if you retain unlicenced
> status.

agreed.  That's why I think most of the interesting high-speed data
service work is being done in the part 15 space.  the people developing
community owned networks recognize the value in unlicensed operation for
the average participant.  They also recognize that the content
restrictions of part 97 are unacceptable which is further reason for
staying with part 15.

I'm beginning to think that the amateur radio community shouldn't do
anything with high-speed data movement at GHz frequencies but instead
should focus on HF and VHF Digital voice plus medium speed data.

If the mesh community folks make as much progress as I think they will
in the next five years, it is highly likely that disaster traffic will
be carried by part 15 meshes instead of the amateur radio
infrastructure.  I can easily see the day when we will show up with HT's
in hand only to be told don't bother because they have their mesh
connected blackberry units for e-mail, messaging, and voice all running
over solar powered part 15 mesh networks nodes scattered about the
disaster landscape.

I think what's happening here is the same thing has happened to many a
"high-priced" or high-end technology.  The market is cannibalized by a
lower cost, more generally useful technology and the high-priced spread
is left servicing only special niches.

The question is how to deal with it.

> If amateurs are suggesting an "amateur" ammendment
> to the 802.11 protocol to support licence compliance
> it would seem desirable that it have a feature set
> that made it internationally acceptable, rather than
> just "FCC" or "ARRL band plan" acceptable. This is
> from the POV that a standard is best if there's only
> one of them, and people do like dxpeditions.
> The amateur radio market is small enough as it is,
> without different standards for each nation.

how true.  As you've pointed out, we have been shooting ourselves in the
foot with national standards vs. international standards.  I don't know
of any solution for this except maybe the ones hinted at by the software
defined radio folks.  Then things like channel spacing become just a
parameter to tweak.

---eric


---
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## 57. [ss] Path loss, was: mesh networks

From: "jeff millar" <jeff@wa1hco.mv.com>
Date: Fri, 18 Oct 2002 09:05:46 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103372-2002.10.18-08.48.28--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Just to add a point about path loss.

I've seen some extensive data (~100K measurements) for low power,
omnidirectional transmission from residential neighborhoods at 1.9 GHz (PCS
cellular) at rooftop antenna heights that shows an average path loss
proportional to 50*log(d), rather that the free space formula of 20*log(d).
The increased loss probably is a combination of foliage, multipath,
shadowing, etc.

If we put 802.11b networks in place, we can draw on the published data on
path loss produced for the cellular industry.  The 802.11b industry only
studied in-building paths.  The old cellular data studied tall towers, but
some new data covers low height antennas.

Let me know if some pointers to the data would help.

jeff, wa1hco


---
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## 58. [ss] Re: Path loss, was: mesh networks

From: "Hugh Shane" <hughs@tetonvalley.net>
Date: Fri, 18 Oct 2002 09:01:15 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103423-2002.10.18-11.00.18--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>
> I've seen some extensive data (~100K measurements) for low power,
> omnidirectional transmission from residential neighborhoods at 1.9 GHz (PCS

> cellular) at rooftop antenna heights that shows an average path loss
> proportional to 50*log(d), rather that the free space formula of 20*log(d).
> The increased loss probably is a combination of foliage, multipath,
> shadowing, etc.
>

>
> Let me know if some pointers to the data would help.
>

Yes, please send pointers!

Hugh
n7uax

---
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## 59. [ss] Re: mesh networks

From: "Hugh Shane" <hughs@tetonvalley.net>
Date: Fri, 18 Oct 2002 10:26:12 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103435-2002.10.18-12.11.59--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

A few years ago I did some work for BBN. These guys are into a lot of interesting
things and one of them is relevant to mesh networks, I think. Take a look at "Utilizing
Directional Antennas for Ad Hoc Networking"

http://www.ir.bbn.com/projects/udaan/udaan-index.html

The project is oriented towards military applications. However, the overall goal of
building multihop packet radio networks seems consistant with that of this group.

I still have contacts at BBN and might be able to get more information if anyone
is interested.

Hugh
n7uax

---
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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 60. [ss] Re: mesh networks

From: dubose@texas.net
Date: Fri, 18 Oct 2002 11:38:00 US/Central
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103436-2002.10.18-12.20.41--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hugh,

Was this the "stuff" that was being tested at Ft. Mamoth(sp), NJ?

I don't recall what frequencies the the radios were on but the ones mounted in
the HumVees had an antenna on the top and a little gray box with a DB9
conncetor that went to the laptop.  I understood that they had 10 MBPs thruput.
I got involved because they were NOT using the non-routed IPs and selected
some DOD IPs that were used by McGuire AFB and they were blocking them in
and outbound and McGuire used the Fort as a gateway to the MilNet.

Walt

> A few years ago I did some work for BBN. These guys are into a lot of
interesting
> things and one of them is relevant to mesh networks, I think. Take a look at
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> Directional Antennas for Ad Hoc Networking"
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goal of
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group.
>
> I still have contacts at BBN and might be able to get more information if
anyone
> is interested.
>
> Hugh
> n7uax
>
>
>
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## 61. [ss] Re: mesh networks

From: "Hugh Shane" <hughs@tetonvalley.net>
Date: Fri, 18 Oct 2002 11:10:50 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103448-2002.10.18-12.56.35--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Walt,

I don't know if that was the ad hoc project or not. I was working on
something entirely different. I simply became aware of the project
during chats with some of the engineers in the lunch room, etc. There's
been quite a lot of work done on this over the years and many of the
papers are publicly available if you know where to look for them.

I spent a couple of years working in the point-multipoint fixed broadband
wireless industry and reached the conclusion (my ex boss will disagree with
me on this) that the non-line-of-sight problem is the number one killer to full
scale deployment of fixed broadband wireless networks. Self organizing,
multihop networks are the way to go IMHO.

Hugh

----- Original Message -----
From: <dubose@texas.net>
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Sent: Friday, October 18, 2002 5:38 AM
Subject: [ss] Re: mesh networks


> Hugh,
>
> Was this the "stuff" that was being tested at Ft. Mamoth(sp), NJ?
>
> I don't recall what frequencies the the radios were on but the ones mounted in
> the HumVees had an antenna on the top and a little gray box with a DB9
> conncetor that went to the laptop.  I understood that they had 10 MBPs thruput.
> I got involved because they were NOT using the non-routed IPs and selected
> some DOD IPs that were used by McGuire AFB and they were blocking them in
> and outbound and McGuire used the Fort as a gateway to the MilNet.
>
> Walt
>
>
> > A few years ago I did some work for BBN. These guys are into a lot of
> interesting
> > things and one of them is relevant to mesh networks, I think. Take a look at
> "Utilizing
> > Directional Antennas for Ad Hoc Networking"
> >
> > http://www.ir.bbn.com/projects/udaan/udaan-index.html
> >
> > The project is oriented towards military applications. However, the overall
> goal of
> > building multihop packet radio networks seems consistant with that of this

> group.
> >
> > I still have contacts at BBN and might be able to get more information if
> anyone
> > is interested.
> >
> > Hugh
> > n7uax
> >
> >
> >
> > ---
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> > To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
> >
>
>
>
> ---
> You are currently subscribed to ss as: hughs@tetonvalley.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>

---
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## 62. [ss] Re: mesh networks

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Fri, 18 Oct 2002 21:45:58 +0100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103466-2002.10.18-16.29.10--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>I have a sneaking suspicion that you live where there are no
> trees.  ;-) at my QTH, I can see four neighbors out of 15.

That seems a difficult case if you're that wooded.

>From my chimney-stack I can see about 50 houses on one
side, and in the other direction across fields I can see
more on the side of a hill, but they're too small to count.
Must be 2 or 3 km away.

> I think what's happening here is the same thing has happened to many a
> "high-priced" or high-end technology.  The market is cannibalized by a
> lower cost, more generally useful technology and the high-priced spread
> is left servicing only special niches.

I wouldn't say that an ageing Z-80 in a TNC with an audio FSK
modem is "high-end" technology, or that a PCMCIA WLAN card
was at all "low end". One is more experimental low-volume
stuff, an 80's technology, with a modulation compromised
by compatability.  The fact that you can't get a TNC that
does a whole raft of rates up to 100Kb/s and many modulation
modes today is very very sad; that would be high-end gear,
and it only takes a cheap DSP to do it. The sort people
throw out with their old mobile phone...

The WLAN card serves a different application entirely, and
consumer demand enables a high-volume high-integration
product that can be made very technically capable at low
cost. But it has no flexibility, of course. End users want
"plug-and-go" so user adjustments are zero.

In a way amateurs need simple fixed standards too; a large
mass of communicating users can't exist without it.


SCC cards still cost 10 times more than an ethernet card.
One is far more technically capable. God knows why I'm
still pissing about with them.

Unlicenced networks will not span the gaps between towns
without licensed line-of-sight links. There will not
be countywide mesh networks without licenses.

I think it's good spectrum use if amateur and community traffic can be repeated over the same nodes rather than blasted past one another at higher power, so I think it's necessary to get some regulatory understanding of shared coexisting networks on a common infrastructure. Trying to modify standards to shut one another out of the hardware by 'security' seems a technically unhelpful and counterproductive move. It's contrary to our obligations of good shared-spectrum neighbourliness and reduction of waste.

It would be nice if our mobile phone companies could learn this... instead of fighting for mast space on every officeblock and street corner.

As far as ammended 802.11 stds are concerned, the UK has no APC requirement... but for unattended operation there is a requirement for station ID by CW at least every 15 minutes. Lots of stations doing this would be disruptive to 802.11 users as they have minimal processing gain... unless it was done at very low power level. This would be better addressed by a licence variation not to have to do it, you're required to ID in the traffic modulation mode anyway. It's rather hard to make a WLAN device do CW, a solution is to build a simple co-located CW beacon. (This is absurd in itself as actually getting a microwave beacon licence is stalled queue at the moment!)

Suggestions that amateurs should simply "abandon" high-speed data would be the death of amateur radio datacomms. Innovation would cease. Hamradio would be consigned to operate "vintage" modes into the future. We'd have no use for our microwave bandwidth and we'd loose it. I think we have no choice but to compete with the internet for Amateur mindshare, or we die. That means offering comparable or better data rates, and content and services that people use. The amount of amateur radio stuff on the 'net that isn't available over our own datacomms networks shows what an appalling state we're in. I dare to believe that's fixable, and at least I can start in my small neck of the woods.

We need to broaden our understanding of "Radio amateurs" to include all non-commercial wireless experimenters & users, irrespective of which kind of licence they operate with. We have to recognise the situation that there are now more ways to get into wireless. It was just businesses, broadcasters, govt. sevices and amateurs in the old days. Now we have 3 classes of amateur licence in the UK, effectively 400W, 50W, & 10W classes, the "licence-free" experimenter is simply the 100mW class. We should share our expertise in the building of a unified non-commercial network. Why waste skills creating walls and trapdoors? Somehow we must adapt the licensing creatively - it should facilitate amateur use the bands, not inhibit it. Let's face it, the licence-free users have access to the spectrum, and can stuff it full of anything they like, so it's a bit pointless blocking them from our few pieces of gear. It's more use to us to bounce data across everyone else's gear!

If we see a situation where radio datacomms becomes so de-regulated that it's no point being a licence-holder to do it, or there are more suited alternative licence options for your projects, why should it then cease to be "Amateur Radio"? You're doing the same things. Hmm, you just have to slap the callsign on the door and get out the logbook to use AMPRNET and put them away when you're not. At this point I suppose AMPRNET might was well abolish itself.

I'm sitting here thinking and I've come to an
interesting realisation: that both hams and the
unlicensed community share the same frequencies
and can use interoperable equipment is highly
unusual situation to be in. It's a Godsend; a unique
blessing we should grasp with both hands and make
the most of. It seems to make some interesting
quirks in the rules we can drive a bus through.
For instance, it seems to be quite legal for
a licence-free repeater to carry amateur traffic
between amateur stations.

Ant M1FDE

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## 63. [ss] Re: mesh networks

From: Walt DuBose <dubose@texas.net>
Date: Fri, 18 Oct 2002 16:02:49 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103468-2002.10.18-16.45.26--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Anthony N Martin wrote:
>
>
[stuff deleted]
> I'm sitting here thinking and I've come to an
> interesting realisation: that both hams and the
> unlicensed community share the same frequencies
> and can use interoperable equipment is highly
> unusual situation to be in. It's a Godsend; a unique
> blessing we should grasp with both hands and make
> the most of. It seems to make some interesting
> quirks in the rules we can drive a bus through.
> For instance, it seems to be quite legal for
> a licence-free repeater to carry amateur traffic
> between amateur stations.
>
> Ant M1FDE
>

In the U.S. it is illegal for licensed service to communicate
directly with an unlicensed service.  In this instance, Part 97
operation cannot communicate with part 15 on the 2.4 GHz band.

To address emergency communications, unless the FCC here makes it
illegal to monitor Part 15 802.11b transmissions, then many
knowledgeable
emergency managers will not want to use Part 15 802.11b
communications.
They like to NOT share emergency operations with the public
and/or media.
So in this instance, they would want to use part 97 operations.
If we
can alter the center frequency and spread enough where Part 15
hardware
will not work with Part 97 hardware, then the emergency managers
will be
more than happy to use ham radio 802.11b operations.

Also, a comment about communications between cities is also
valid, at
least here in most of the U.S.

Walt/K5YFW

---
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## 64. [ss] Re: mesh networks

From: Jeff King <jeff@aerodata.net>
Date: Fri, 18 Oct 2002 17:49:53 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103471-2002.10.18-17.38.49--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Fri, 18 Oct 2002 16:02:49 -0500, Walt DuBose wrote:
>To address emergency communications, unless the FCC here makes it
>illegal to monitor Part 15 802.11b transmissions, then many
>knowledgeable emergency managers will not want to use Part 15 802.11b
>communications.

Hmmm.... if they where really "knowledgeable" they'd realize that the FCC
can't (and shouldn't) stop people from monitoring the airwaves. Or did you
really believe when the FCC outlawed monitoring of cell phone frequencies it
eliminated this?

Seriously though, WEP128 with Part 15 should stop most casual ease dropping
so I don't see what the issue is.

-Jeff

---
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## 65. [ss] Re: mesh networks

From: Thomas Allen <w7yr@mindspring.com>
Date: Fri, 18 Oct 2002 15:44:36 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103474-2002.10.18-18.27.11--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

This sounds a little like Applique, the Internet for the battlefield. Every
little gray box had a Solaris box, a router, display and some combination
of EPLRS and SINCGARS secure radios.

At 11.38 2002-10-18 +0000, you wrote:
>Hugh,
>
>Was this the "stuff" that was being tested at Ft. Mamoth(sp), NJ?
>
>I don't recall what frequencies the the radios were on but the ones
>mounted in
>the HumVees had an antenna on the top and a little gray box with a DB9
>conncetor that went to the laptop.  I understood that they had 10 MBPs
>thruput.
>I got involved because they were NOT using the non-routed IPs and selected
>some DOD IPs that were used by McGuire AFB and they were blocking them in
>and outbound and McGuire used the Fort as a gateway to the MilNet.
>
>Walt

---
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## 66. [ss] Re: mesh networks

From: Stewart Teaze <horseshoe7@yahoo.com>
Date: Fri, 18 Oct 2002 16:20:29 -0700 (PDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103479-2002.10.18-19.03.11--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

--- Thomas Allen <w7yr@mindspring.com> wrote:
> This sounds a little like Applique, the Internet for
> the battlefield. Every
> little gray box had a Solaris box, a router, display
> and some combination
> of EPLRS and SINCGARS secure radios.

4th ID, Ft. Hood stuff... I don't know if they ever
actually got this stuff out of the sandbox and into
any active division's hands.

EPLRS - 420-450MHz  (Hey! that's 70cm Ham!)
SINCGARS - 30-88Mhz  (hopper, WIIIDE 6m)

We use ARC-210's where I'm at (30-400Mhz), and they
can do SINCGARS, HaveQuick, and VHF/UHF Air, Maritime,
etc.  Problem is - it is kind of hard to get an
antenna to perform very well over such a wide
frequency range... your 10W radio ends up performing
worse than an FRS radio.  You gotta love the Military.

I did a lot of Digital Comm experiments with SINCGARS
at Ft Huachuca - once you are more than about a mile
apart it is basically a 2400bps system (packet
radio!).  EPLRS is "supposedely" a 56Kbps system -
but, in a real battlefield scenario, you aren't going
to get much more than SINCGARS for data (the main part
of the bandwidth is dedicated to Position
Reporting)... I suppose when everyone is sitting
around waiting in the trenches, you could get more
bandwidth for data... but once more than a few guys
figured it out, throughput would drop precipitously.

Anyway - playing around with these systems (and JTIDS)
has provided me with a lot of ideas for M.1 (nee
MURSlink).

- Stewart
http://groups.yahoo.com/group/MURS-OPEN

_____
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---
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## 67. [ss] Re: mesh networks

From: "Eric S. Johansson" <esj@harvee.billerica.ma.us>
Date: Sat, 19 Oct 2002 10:26:35 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103612-2002.10.19-10.09.21--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Walt DuBose wrote:
 > To address emergency communications, unless the FCC here makes it
 > illegal to monitor Part 15 802.11b transmissions, then many
 > knowledgeable emergency managers will not want to use Part 15 802.11b
 >  communications. They like to NOT share emergency operations with the
 > public and/or media. So in this instance, they would want to use part
 > 97 operations. If we can alter the center frequency and spread enough
 > where Part 15 hardware will not work with Part 97 hardware, then the
 > emergency managers will be more than happy to use ham radio 802.11b
 > operations.

couple fallacies here.  First it's not illegal to monitor public service
traffic whether it uses public service or amateur radio frequencies.
Second, simple modifications like you propose are easily replicated
since the information would be available to the public.  Therefore, it
would be easily monitored.

Part 15 has certain advantages:

  * You can encrypt traffic over part 15 links without restriction
  * There is no need for a gatekeeper to either handle, monitor, or
filter traffic for appropriate content.
  * There is an order of magnitude more available equipment and
installations.
  * Equipment is available off-the-shelf at an acceptable price.
  * Equipment compatible with Internet protocols allowing easy
connectivity to the Internet.

a lot of the writing on the "technical National Guard" assumes that much
of the networking will be done with part 15 devices by ordinary IT
personnel.

thinking about radio and spectrum is changing radically on the

regulatory and experimenter side.  The approaches I'm seeing so far in
the amateur community are still "fighting the last war".  case in point,
ARRL802.11b.  Based on past collective experience with packet, reworking
specification should probably be a week's worth of work.  But it's
beginning to look an awful lot like ax.25 (same war, different spectrum)

I suggest reading the following document on open spectrum policies.
It's going to be our future so we should be ready for it.  It is
representative of the kind of thinking I've seen come from many
quarters.  I think it will be about three to five years at the soonest
before we see implementation of this kind of policy which should give us
sufficient time to adapt.

http://www.newamerica.net/index.cfm?sec=publications&pg=article&pubID=1002&Art1=go

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## 68. [ss] Re: mesh networks

From: "Jeff Edmonson" <w5omr@w5omr.shacknet.nu>
Date: Sat, 19 Oct 2002 10:08:30 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103619-2002.10.19-10.51.03--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> EPLRS - 420-450MHz  (Hey! that's 70cm Ham!)
> SINCGARS - 30-88Mhz  (hopper, WIIIDE 6m)
>
> We use ARC-210's where I'm at (30-400Mhz), and they
> can do SINCGARS, HaveQuick, and VHF/UHF Air, Maritime,
> etc.  Problem is - it is kind of hard to get an
> antenna to perform very well over such a wide
> frequency range... your 10W radio ends up performing
> worse than an FRS radio.  You gotta love the Military.

Can anyone else sense the need for a Log Periodic antenna?

---
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## 69. [ss] Re: mesh networks

From: "Eric S. Johansson" <esj@harvee.billerica.ma.us>
Date: Sat, 19 Oct 2002 11:28:31 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103623-2002.10.19-11.11.25--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Anthony N Martin wrote:
> That seems a difficult case if you're that wooded.

its classical suburban New England.  Unless of course you are living in
one of the no antenna, starter Castle treeless plains.  Then you get
reasonably good coverage until you hit the end of the property and dive
into the woods again.

>>I think what's happening here is the same thing has happened to many a
>>"high-priced" or high-end technology.  The market is cannibalized by a
>>lower cost, more generally useful technology and the high-priced spread
>>is left servicing only special niches.
>
>
> I wouldn't say that an ageing Z-80 in a TNC with an audio FSK
> modem is "high-end" technology, or that a PCMCIA WLAN card
> was at all "low end".

I was referring more to accessibility of service.  Amateur radio is the
"high-cost" service because it requires multiple bodies, passing
messages by hand and voice, content filtering by the radio operator,
etc..  A "low cost" service would be a PDA within 802.11b card and it
and some standard communications software like some form of instant
messenger or e-mail client.  It's easy to use, there's no need for any
intermediaries, and it's relatively easy to set up.  And if you are in a
mesh network, you get exceptionally good range.

> The WLAN card serves a different application entirely, and
> consumer demand enables a high-volume high-integration
> product that can be made very technically capable at low
> cost. But it has no flexibility, of course. End users want
> "plug-and-go" so user adjustments are zero.
>
> In a way amateurs need simple fixed standards too; a large
> mass of communicating users can't exist without it.

also given that many hams are plug and pray when it comes to equipment,
minimizing the number of knobs and adjustments will increase their
probability for success.  Sometimes I think if you gave these people a
high-speed network, they would use it to send huge .wav files containing
nothing but CW transmissions to each other.

> SCC cards still cost 10 times more than an ethernet card.
> One is far more technically capable. God knows why I'm
> still pissing about with them.

well, why are you spending time with them when you could be down at the
pub "recovering" from working with them.  ;-)

> Unlicenced networks will not span the gaps between towns
> without licensed line-of-sight links. There will not
> be countywide mesh networks without licenses.

I will argue that this isn't a problem.  First, if meshes work the way I
hope they will (i.e. one standard, multiple service providers to the
same mesh), you just won't care.  Getting to the net (the 99 percent
case) will just work.  Second, inter-town connectivity will just happen
in many communities.  Mesh edges aren't clean and don't stop at town
lines (which has interesting implications for routing and TTL).  In
parts of the world where you have dense clusters with lots of open space
between them, it is eminently practical to use part 15 links to cross
those open spaces.  All it takes is a good path and gain.  There is no
need for licensed operation if the authorized devices behave according
to agree upon rules regarding interference usage etc.  I refer you to
the open spectrum paper at the bottom of this e-mail

> I think it's good spectrum use if amateur and community
> traffic can be repeated over the same nodes rather than
> blasted past one another at higher power, so I think
> it's necessary to get some regulatory understanding of
> shared coexisting networks on a common infrastructure.
> Trying to modify standards to shut one another out of
> the hardware by 'security' seems a technically unhelpful
> and counterproductive move. It's contrary to our
> obligations of good shared-spectrum neighbourliness
> and reduction of waste.

I agree.  The only thing stopping here in the states is content
regulations that are built into part 97 to protect the telephone
companies from competition.

Personally, I believe that the rules should be changed so that amateur
radio networks can be used to serve the local community by carrying
Internet traffic.  It would need to be carefully written so that there
would be no commercial exploitation of the network (e.g. a company
builds infrastructure for their own use on amateur spectrum)but at the
same time allow the club responsible for the infrastructure to recover
costs from its membership.  Yes, this would imply a two-tier membership
amateur and non amateur but that's not an uncommon structure.

> It would be nice if our mobile phone companies could
> learn this... instead of fighting for mast space on
> every officeblock and street corner.

they would rather fight for mast space than make it easy for you to
switch phone companies.  All phone company behavior is oriented towards
either keeping out competition or locking in consumers.  Their actions
make much more sense if you keep that in mind.

> As far as ammended 802.11 stds are concerned, the UK
> has no APC requirement... but for unattended operation
> there is a requirement for station ID by CW at least
> every 15 minutes. Lots of stations doing this would be
> disruptive to 802.11 users as they have minimal
> processing gain... unless it was done at very low power

> level. This would be better addressed by a licence
> variation not to have to do it, you're required to
> ID in the traffic modulation mode anyway. It's
> rather hard to make a WLAN device do CW, a solution
> is to build a simple co-located CW beacon. (This is
> absurd in itself as actually getting a microwave beacon
> licence is stalled queue at the moment!)

fighting the last war... personally, I think just emitting a
arp/brodcast/?? packet with the call sign embedded in it makes far more
sense.

> Suggestions that amateurs should simply "abandon"
> high-speed data would be the death of amateur radio
> datacomms. Innovation would cease. Hamradio would be
> consigned to operate "vintage" modes into the future.
> We'd have no use for our microwave bandwidth and we'd
> loose it. I think we have no choice but to compete
> with the internet for Amateur mindshare, or we die.
> That means offering comparable or better data rates,
> and content and services that people use. The amount
> of amateur radio stuff on the 'net that isn't available
> over our own datacomms networks shows what an appalling
> state we're in. I dare to believe that's fixable, and
> at least I can start in my small neck of the woods.

my suggestion to abandon high-speed data networks was more pragmatic
one.  We have three fronts in which we need to deal with digital
conversions.  First is HF voice.  If we can generalize the facility,
it's no longer just voice but a voice/slow scan TV/instant QSL
delivery/... facility.

Second is VHF voice.  Again, it could be generalized just like HF voice
with the addition of medium speed data transfer, inter repeater relays,
"who's listening" listings and "I want a contact" multi-repeater
repeater calls when the local repeater is idle.

last is high-speed data networks.  We had a packet radio network but it
died because of personalities and lack of anything interesting to do.  I
think it is quite telling that our most interesting and high activity
digital communication modes are APRS and DX spots.

unless you have a need for a use for a network, why build it?  With the
current regulatory limitations, all of the uses for a network are
effectively forbidden which leads me to the conclusion of don't bother
building.

you are quite right in saying that you need to integrate the Internet
and amateur radio in order to garner more mind share for amateur radio.
  I believe it was the ITU (or some such organization) that found that
any time Internet access became widespread within a country, interest in
amateur radio dropped off.

there are so many things a high-speed network could support within a
community in terms of access to public meetings, to participation etc.
that you can't do today with existing telecom infrastructure except that
a very high-cost.  Except that the regulations prevent it.

So, this is why I say abandon high-speed digital modes.  Focus on the
VHF and HF digital conversion and do that well.  Work at regulatory
changes and once they are okayed, then move forward with high-speed
digital data.

> I'm sitting here thinking and I've come to an
> interesting realisation: that both hams and the
> unlicensed community share the same frequencies
> and can use interoperable equipment is highly
> unusual situation to be in. It's a Godsend; a unique
> blessing we should grasp with both hands and make
> the most of. It seems to make some interesting
> quirks in the rules we can drive a bus through.
> For instance, it seems to be quite legal for
> a licence-free repeater to carry amateur traffic
> between amateur stations.

exactly.  Part 15 can carry part 97 but part 97 can't carry part 15.
For that reason alone, it's necessary to be able to distinguish data and
what we can do it.

again, I point you to the open spectrum paper
http://www.newamerica.net/index.cfm?sec=publications&pg=article&pubID=1002&Art1=go
for some interesting reading.  It confirms some of your thinking and
that regulation will move away from spectrum allocations to radio
behavior.  There will be a decreasing need for licensed operation
especially in the realm of data communications at microwave frequencies.

---eric

---
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## 70. [ss] Re: mesh networks

From: Walt DuBose <dubose@texas.net>
Date: Sat, 19 Oct 2002 11:17:01 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103624-2002.10.19-11.59.38--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Jeff Edmonson wrote:
>
> > EPLRS - 420-450MHz  (Hey! that's 70cm Ham!)
> > SINCGARS - 30-88Mhz  (hopper, WIIIDE 6m)
> >
> > We use ARC-210's where I'm at (30-400Mhz), and they
> > can do SINCGARS, HaveQuick, and VHF/UHF Air, Maritime,
> > etc.  Problem is - it is kind of hard to get an
> > antenna to perform very well over such a wide
> > frequency range... your 10W radio ends up performing
> > worse than an FRS radio.  You gotta love the Military.
>
> Can anyone else sense the need for a Log Periodic antenna?

Its not omni-directional.  They do use discones; however, they
aren't exactly a mobile, man-portable antenna.  Can you imagine
a soldier carrying a radio pack with a 30-90 MHz discone on it?
He couldn't move around very well.

---
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## 71. [ss] Re: mesh networks

From: "Jeff Edmonson" <w5omr@w5omr.shacknet.nu>
Date: Sat, 19 Oct 2002 11:23:05 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103625-2002.10.19-12.05.39--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> > > We use ARC-210's where I'm at (30-400Mhz), and they
> > > can do SINCGARS, HaveQuick, and VHF/UHF Air, Maritime,
> > > etc.  Problem is - it is kind of hard to get an
> > > antenna to perform very well over such a wide
> > > frequency range... your 10W radio ends up performing
> > > worse than an FRS radio.  You gotta love the Military.
> >
> > Can anyone else sense the need for a Log Periodic antenna?
>
> Its not omni-directional.  They do use discones; however, they
> aren't exactly a mobile, man-portable antenna.  Can you imagine
> a soldier carrying a radio pack with a 30-90 MHz discone on it?
> He couldn't move around very well.

Telescopic?  Extend the antenna, with push-buttons to lock it in
place...

just random thoughts.

Discones are 3dbi, though.... similar to a dummy load.

--
73 = Best Regards,
-=Jeff/W5OMR=-

---
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## 72. [ss] High speed networks...

From: "Bret A. Boggs" <bboggs@ameritech.net>
Date: Sat, 19 Oct 2002 12:30:51 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103626-2002.10.19-12.18.31--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

There has been a lot of discussion about high speed networks and amateur
radio for the past few days that cover a lot of legal and technical
issues.  But, I have not seen much about how an amateur high speed
network would be used.  In many ways, it is a solution looking for a
problem.

Personally, would I use a high speed amateur network of internet access?
No, to much content restrictions.

Emergency communications?  I have been involved several emergency
situations...  Most of the critical (tactical) information is handled by
short voice transmissions.  In my experience, the only place where data
communications would be nice would be between shelters.  Something with
a range on the order of 20 - 30 miles and can carry IP traffic at a
speed of 128kbps to 512kbps.  Also, I am not aware of anything that
prevents part 97 traffic from be carried over part 15 devices (Notice...
I did not say part 97 devices connecting to part 15 devices).  Why not
use a part 15 wireless network to connect to shelters to a near by
communications center to handle the long haul?

Experiment with voice or video over wireless IP?  I can go down to
CompUSA and buy all the part 15 equipment I need to experiment with
video or voice over wireless.  I do not know of one ham radio dealer
that carries a wireless LAN radio (for example WiLAN's 120-24).  Build
the equipment?  I could do that...  but most of the hams I know have no
interest in learing how to work with FPGAs, PLD's, or even program a PIC
microcontroller.

I believe the Ham radio would be best served if we focus on digital
voice and data at 128kbps to 512kbps with a range of 20 - 30 miles.
More than enough speed for most ham applications.  That is just my
opinion...  I would like to hear from the rest of the group on how a
high speed amateur network would be used.

Thanks!
Bret - WB8WKC

---
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## 73. [ss] Re: mesh networks

From: "Bret A. Boggs" <bboggs@ameritech.net>
Date: Sat, 19 Oct 2002 12:37:04 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103627-2002.10.19-12.20.00--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>Discones are 3dbi, though.... similar to a dummy load.

You must really love big antennas!  :)

Bret - WB8WKC

---
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## 74. [ss] Re: mesh networks

From: Jeff King <jeff@aerodata.net>
Date: Sat, 19 Oct 2002 12:39:13 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103628-2002.10.19-12.22.10--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Eric:

On Wed, 16 Oct 2002 07:50:50 -0400, Eric S. Johansson wrote:
>I recently found out about and easily accessible mesh network
>implementation that might be applicable to amateur radio use.
>
>http://www.locustworld.com/
>
>its currently closed source but they are talking about making it
>more open.

This is interesting, but reviewing the site I can't get a good "read" as to where their heads are at. It *might* be open source, it *will* be open source? Did you notice the "swarm' chip? It is basically a mini web server for a AP set up apparently to attract mobile laptop users. I.E. the perfect thing for a for pay ah hoc network, which I don't have a problem with, as long as they give me access to my equipment and some royalty ;-) And in any case, if it was set up like this, it would effectively preclude any amateur use.

Do you have a better read of it then I do?

I do like the fact they are targeting off the shelf hardware like the mini-ITX board. The problem with the Open-AP project was you where at the whims of the AP manufacturers as to hardware. Ideally, I'd like to see locust on a compact flash card with no moving parts. I suspect it could be done now as most CFC's can be hung off a IDE port.

>I will be experimenting with it but with only two nodes it will be
>difficult to create much of a mesh. :-) I will report on
>success/failure as I muck about.

I'd very much like to hear this.

>It seems to me that one of the benefits of TAPR could be negotiation
>with some manufacturer of access points etc. for a standard box plus
>information that we could purchase either through TAPR or off-the-
>shelf.

I don't think this will work. I volunteered to do this for them 2 or 3 times in the past but there was no interest. And at this point, I don't think they could be of much help. This stuff is such high volume that hams won't even show up on the radar, so best just to stay off it. Find some hams that have business that can get wholesale prices at Ingrahm or any other number of distributors and handle it that way. IMHO, best way to do it is to pick a target platform all can agree on and use this TAPR mailing list to coordinate all of it. TAPR would be helpful this was as well as publishing the results in PSR.

>Once we have a standard platform, then we can have a stable base for
>experimentation.

Things I am looking at for standardization:

LinkSys WET11 (full ethernet client that can be POE'ed to the top of the tower)
Some sort of Mini-ITX board (And does only VIA make these?)
Orinco and/or some sort of PRISM board.

Going to avoid USB based cards since drivers are problematically for them on Linux and even WIN2000.

>another benefit of the standardization would be attention from the
>part
>15 wireless network community. Since their needs are mostly in
>alignment with ours, we could gain additional volume benefits both
>in terms of visibility, membership, and experimentation.

Well, there had to be one thing I disagreed with you here ;-). I don't think most of them will care, and why should they? As much as we want to believe, there is no real advantage for them to operate part 97 and many disadvantages. The 1 watt APC rule is a firm well defined barrier, and the schemes I have seen proposed to circumvent it, IMHO, do not comply with the Part 97 rules, which are clear. So, until these rules are relaxed (I've been suggesting raising the APC limit to 10watts), I don't see much interest from part 15 users to come to part 97

Regards,

Jeff

---
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## 75. [ss] Re: mesh networks

From: Jeff King <jeff@aerodata.net>
Date: Sat, 19 Oct 2002 12:47:10 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103629-2002.10.19-12.30.10--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Sat, 19 Oct 2002 11:28:31 -0400, Eric S. Johansson wrote:
>Anthony N Martin wrote:

>>As far as ammended 802.11 stds are concerned, the UK
>>has no APC requirement... but for unattended operation
>>there is a requirement for station ID by CW at least
>>every 15 minutes. Lots of stations doing this would be
>>disruptive to 802.11 users as they have minimal
>>processing gain... unless it was done at very low power
>>level. This would be better addressed by a licence
>>variation not to have to do it, you're required to
>>ID in the traffic modulation mode anyway. It's
>>rather hard to make a WLAN device do CW, a solution
>>is to build a simple co-located CW beacon. (This is
>>absurd in itself as actually getting a microwave beacon
>>licence is stalled queue at the moment!)
>
>fighting the last war... personally, I think just emitting a
>arp/brodcast/?? packet with the call sign embedded in it makes far
>more sense.

It does, but note at the top that Anthony was referring to the UK, which even requires CW id's on narrowband packet. So it is not fighting the last war other then the sense it is a regulatory war.

Now, what would be interesting is to see if the ID was required in MORSE CODE or it was required using CW modulation. These are not the same thing. If it just asked for a MORSE CODE id using a on/off carrier, one could simply send a short 802.11b frame for "dot" and a long frame for "dash". This way, all downstream clients would get a valid carrier detect and the energy would be spread which would be less disruptive then a narrow band carrier (to stations on a different chip pattern).

-Jeff

---
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## 76. [ss] Re: High speed networks...

From: Jeff King <jeff@aerodata.net>
Date: Sat, 19 Oct 2002 13:03:38 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103634-2002.10.19-12.46.31--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Sat, 19 Oct 2002 12:30:51 -0400, Bret A. Boggs wrote:

>Personally, would I use a high speed amateur network of internet
>access?
>No, to much content restrictions.

I'd beg to differ there. In their heyday, the WSU, Oakland and Ann Arbor Michigan HamGates (NOS) where used by many of their users for their primary internet access. Unrestricted SMTP, FTP, Telnet.. any port for that matter.

Even some IRC.  None of the sysops of the above did any filtering to the
internet proper. And at the time they where close to or in excess of the
dial-up speeds (9.6k and 19.2kbaud radio ports).

But that was 10+ years ago and the the users of said hamgates where for the
most part technical adapt amateur radio operators.

Would I do it again? I wouldn't hesitate although I might restrict the access
to clients (hams) that are bright enough not to be surfing porn sites or
trading copyright software.

None-the-less, I agree with your larger point in that Part 97 spread spectrum
at this time does not offer a significant advantage over Part 15 for last
mile applications.

-Jeff

---
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## 77. [ss] Re: mesh networks

From: "Jeff Edmonson" <w5omr@w5omr.shacknet.nu>
Date: Sat, 19 Oct 2002 12:23:20 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103635-2002.10.19-13.05.55--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> >Discones are 3dbi, though.... similar to a dummy load.
>
> You must really love big antennas!  :)
>
> Bret - WB8WKC

Only the ones that work, Bret :-)

Case in point:  HF Mobile

the hamstick was supposed to revolutionize the mobile industry.
  they don't work well.

Hustler resonators are ok, but unless you get the SUPER size,
the loss in the coil is tremendous!  (go grab your coil, after a
15 to 20second full 100w output power CW keydown)

I've not tried a screwdriver antenna, but there are lots of them
out there.  There's lots of hamsticks too, but I digress...

What works for me, is a Bugcatcher coil, center mounted on about
108" of mast/whip, with an impedance matching coil at the base.

I've been, for about the last month, playing with different antennas
and what works is utilizing the most amount of radiating space
available.

At home, I've tried shortened antennas, trap antennas and other
compromise antennas... granted I live in a house, with no antenna
or covenant restrictions, but not always.  What has -always- worked
has been a full-sized dipole, cut for the band to work.

when you get up to frequencies that are high enough, where you can
start walking around your antennas, while they're 1/4 to 1/2wave off
of the ground, then you can start adding some gain to them.  What is
a 13-el beam made of?  dioples.  Several in the same plane, to provide
directivity and gain.

73 = Best Regards,
-=Jeff/W5OMR=-

---
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## 78. [ss] Re: mesh networks

From: Stewart Teaze <horseshoe7@yahoo.com>
Date: Sat, 19 Oct 2002 13:44:59 -0700 (PDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103658-2002.10.19-16.27.40--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

--- Walt DuBose <dubose@texas.net> wrote:
> Jeff Edmonson wrote:
> > Can anyone else sense the need for a Log Periodic
> antenna?
>
> Its not omni-directional.

Yes - we definately aren't interested in beams, etc.

> They do use discones; however, they
> aren't exactly a mobile, man-portable antenna.  Can
> you imagine a soldier carrying a radio
> pack with a 30-90 MHz discone on it?
> He couldn't move around very well.

Our application is air and ground station based.  My particular design concern is for the ground-based antenna (they already are using a $4,000 design on the air vehicle).  The antenna that a previous engineer spec'd in for the Ground Station was a Dayton-Granger multi-band omni (30-88, 108-174, 225-400), which supposedely provides 2.5 VSWR over the two VHF bands, and 2.0 VSWR on the so-called UHF band.  I'm trying to get more specs from the manufacturer, but they have been less than speedy in providing information (this just raises my curiousity level even more).  The antenna is about 60 inches in height, and the lower part has a cylindrical sleeve that looks to be about 3inches in diameter (contains loading coils, or acts as a ground plane?), and there are no ground-plane elements... so far, I've only seen grainy B&W photos of it, so I need to pull one or two from government stores to play around with - unfortunately the cost-conscience Program Managers don't let Design Engineers have much time to "play around" (pity).

Here is my biggest concern; the 30-400Mhz 12W ARC-210 and Dayton-Granger antenna are set to replace a 25W VHF Air Band Radio (operates on about 118-138Mhz), and 1/4-wave whip antenna, and I'm worried that the performance of the ARC-210/D-G will be abysmal (in comparison to the VHF Airband radio) on 118-138.

Any insights on the possible design/operational theory and performance of the existing Dayton-Granger antenna would be appreciated.  I'm quite familiar with standard VHF/UHF omni antenna designs (1/4, 5/8-wave, stacked verticals, etc.) that are resonant over fairly limited frequency ranges; but I'm not familiar with designs that are supposed to perform fairly well(similar in gain/loss to the theoretical isotropic radiator) over such wide frequency ranges.  The problem is, since our program has started to receive so much attention recently(and rightly so), I've been seeing so much BS marketing lately, that I'm more and more hesitant to believe in every perpetual motion machine the crackpot marketers try to sell our Program Managers and Military customers, and I'm somewhat hesitant to believe in an antenna design that purports to perform well over such a wide frequency range.

- Stewart

_____
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http://webhosting.yahoo.com/

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## 79. [ss] Re: High speed networks...

From: s.monsey@att.net
Date: Sat, 19 Oct 2002 21:10:00 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103660-2002.10.19-16.52.50--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

http://www.symek.com/g/index-g.html

http://www.dutch.nl/bdj/23linken.htm

Take a look at these modems and radios from Europe. They do 128kps to 512Kbps.
Perfect for a WLAN link to local 802.11 stuff.

Steve N0FPF
> There has been a lot of discussion about high speed networks and amateur
> radio for the past few days that cover a lot of legal and technical
> issues.  But, I have not seen much about how an amateur high speed
> network would be used.  In many ways, it is a solution looking for a
> problem.
>
> Personally, would I use a high speed amateur network of internet access?
> No, to much content restrictions.
>
> Emergency communications?  I have been involved several emergency
> situations...  Most of the critical (tactical) information is handled by
> short voice transmissions.  In my experience, the only place where data
> communications would be nice would be between shelters.  Something with
> a range on the order of 20 - 30 miles and can carry IP traffic at a
> speed of 128kbps to 512kbps.  Also, I am not aware of anything that
> prevents part 97 traffic from be carried over part 15 devices (Notice...
> I did not say part 97 devices connecting to part 15 devices).  Why not
> use a part 15 wireless network to connect to shelters to a near by
> communications center to handle the long haul?
>
> Experiment with voice or video over wireless IP?  I can go down to
> CompUSA and buy all the part 15 equipment I need to experiment with
> video or voice over wireless.  I do not know of one ham radio dealer
> that carries a wireless LAN radio (for example WiLAN's 120-24).  Build
> the equipment?  I could do that...  but most of the hams I know have no
> interest in learing how to work with FPGAs, PLD's, or even program a PIC
> microcontroller.
>
> I believe the Ham radio would be best served if we focus on digital
> voice and data at 128kbps to 512kbps with a range of 20 - 30 miles.
> More than enough speed for most ham applications.  That is just my
> opinion...  I would like to hear from the rest of the group on how a
> high speed amateur network would be used.
>
> Thanks!
> Bret - WB8WKC
>
>
> ---
> You are currently subscribed to ss as: s.monsey@att.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>

---
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## 80. [ss] Re: mesh networks

From: "Dewayne Hendricks" <dewayne@warpspeed.com>
Date: Sat, 19 Oct 2002 20:50:22 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103697-2002.10.19-23.33.42--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>I suggest reading the following document on open spectrum policies.
>It's going to be our future so we should be ready for it.  It is
>representative of the kind of thinking I've seen come from many
>quarters.  I think it will be about three to five years at the soonest
>before we see implementation of this kind of policy which should give us
>sufficient time to adapt.
>
>http://www.newamerica.net/index.cfm?s
>ec=publications&pg=article&pubID=1002&Art1=go

There is a more detailed paper (21 pages) that was released on October 1st that goes into open spectrum concepts in more detail then the four page brief that Eric points to above. You'll find it here:

<http://www.newamerica.net/index.cfm?sec=publications&pg=article&pubID=1001&Art1=go>

As for the timeframe before this sort of policy is implemented, I'd say that it may be a bit sooner then the three to five years that Eric postulates.

-- Dewayne WA8DZP

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## 81. [ss] Re: High speed networks...

From: Dave Maciorowski <wa1jhk@ix.netcom.com>
Date: Sun, 20 Oct 2002 07:07:46 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103733-2002.10.20-08.50.06--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Mornin' Bret,

>There has been a lot of discussion about high speed networks and amateur
>radio for the past few days that cover a lot of legal and technical
>issues. But, I have not seen much about how an amateur high speed
>network would be used. In many ways, it is a solution looking for a
>problem.

[snip]

>Experiment with voice or video over wireless IP? I can go down to
>CompUSA and buy all the part 15 equipment I need to experiment with
>video or voice over wireless. I do not know of one ham radio dealer
>that carries a wireless LAN radio (for example WiLAN's 120-24). Build
>the equipment? I could do that... but most of the hams I know have no
>interest in learning how to work with FPGAs, PLD's, or even program a PIC
>microcontroller.
>
>I believe the Ham radio would be best served if we focus on digital
>voice and data at 128kbps to 512kbps with a range of 20 - 30 miles.
>More than enough speed for most ham applications. That is just my
>opinion... I would like to hear from the rest of the group on how a
>high speed amateur network would be used.

Agreed.

For over 20 years our group, the Colorado Repeater Association (http://www.qsl.net/cra/), has been building linked, wide-area repeater systems (voice and data) in support of emergency services, eg. Public Safety, ARES, Red Cross, Salvation Army. The voice repeaters are fairly busy these days, but not like 10 years ago. The 1200bps AX.25 repeater (NOT a digi) is mainly used for intermittent ARES operations. The 9600bps AX.25 repeater (NOT a digi) has been quiet for months.

Our racks on the mountain tops are full of link hardware (FM voice). Lots of simplex frequencies are dedicated to linking voice from one mountain top to another.

What we need are fat pipes to move the audio (VoIP) from site to site. We've been experimenting for years, but costs have been prohibitive for wide deployment. 802.11 brings the promise of inexpensive linking hardware coupled with open source software (primarily Linux-based) to finally be able to implement the system that we've always envisioned.

We're just getting started on this project in the Denver Metro area.

-- The phase 1 activity is to perform line-of-sight range tests using 100mw 802.11b APs and 30" dishes. We wish to confirm the back-of-the-napkin path loss calculations.

-- The phase 2 activity is to install a 25 mile Part 15 802.11b point-to-point link equipped with data collection software to quantify the throughput and the effects of environment and interference on the path. We plan to leave this data collection process in place during other operations

to collect long term data.  If 802.11b consumer deployment grows as expected, we expect to see a corresponding drop in throughput over time.  We also expect to see environmental changes by time of year and weather.

-- In phase 3, we will deploy VoIP applications and replace the first link.  Not only do we free up several simplex channels, but we gain the ability to more effectively remotely monitor and control the equipment at the site.

-- Once the technology is proven, we will deploy a total of ~6 links to provide all the connectivity that we require.

Like many of you, we have concerns about interference on this band especially from the commercial hilltop APs.  (I'm sure our landlord wouldn't be happy if we put a paying tenant out of business by running Part 97 802.11b close by his installation.)  And, with 802.11g coming up soon, we can only expect this band to become more crowded.

One idea is to move to 802.11a.  We will perform similar studies on this band as time permits.

Another idea is to build a transverter to move 802.11b to the 3GHz ham band.  (Is anyone aware of other groups working on this?)  Obviously, this would move us completely away from the interference, but it does increase the cost per installation.  If we did have this option available, we would probably deploy it only when particular paths have problems on 2.4GHz.

We'll be sure to report our results and we'll be watching with interest what other groups are doing.

73,

Dave

-----
Dave Maciorowski, WA1JHK
Colorado Repeater Association, Inc.
   Serving Colorado with Voice and Data, 6-Meters to 1.2 Gig
   PO Box 1013, Parker, CO  80134-1013, 303-840-4CRA

Internet: cra@qsl.net
CRA:      http://www.qsl.net/cra/

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## 82. [ss] Re: High speed networks...

From: Gerry Creager N5JXS <gerry.creager@tamu.edu>
Date: Sun, 20 Oct 2002 08:36:32 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103734-2002.10.20-09.19.05--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

THis is an excellent program.  I want to offer a couple of thoughts, however.

1.  802.11a currently strikes me as one of the more promising technologies in the unlicensed arena for point-to-point linking.  I expect to see more phones crop up in the same spectrum (V-Tech has entered the game already) but with decent antennas, this will be less a problem than at 2.4 GHz.

2.  Several vendors I deal with regularly are now telling me 802.11g may be deployed but will not be well supported overall.  The spectrum utilization already in place at 2.4 GHz is scaring them, and the implication is that they won't put too much effort in that arena.

The second point also makes good sense to me.  We have seen a marked proliferation of cordless telephones in the 2.4 GHz spectrum and I have documented their effect at short and intermediate range in impacting 802.11b systems.  I anticipate their effect on Eb/N(0) for 802.11g will make folks wonder why they spent the extra money.

Also, while antennas at either frequency are considerably easier to plumb and maintain decent beamwidths, the benefits one accrues from going to the higher frequencies in beamwidth and effective gain will

provide an additional margin against co-channel, off-axis interference
that cannot be easily realized at 2m or 440 MHz.

73, gerry

Dave Maciorowski wrote:
> Mornin' Bret,
>
>> There has been a lot of discussion about high speed networks and amateur
>> radio for the past few days that cover a lot of legal and technical
>> issues.  But, I have not seen much about how an amateur high speed
>> network would be used.  In many ways, it is a solution looking for a
>> problem.
>
>
> [snip]
>
>> Experiment with voice or video over wireless IP?  I can go down to
>> CompUSA and buy all the part 15 equipment I need to experiment with
>> video or voice over wireless.  I do not know of one ham radio dealer
>> that carries a wireless LAN radio (for example WiLAN's 120-24).  Build
>> the equipment?  I could do that...  but most of the hams I know have no
>> interest in learning how to work with FPGAs, PLD's, or even program a PIC
>> microcontroller.
>>
>> I believe the Ham radio would be best served if we focus on digital
>> voice and data at 128kbps to 512kbps with a range of 20 - 30 miles.
>> More than enough speed for most ham applications.  That is just my
>> opinion...  I would like to hear from the rest of the group on how a
>> high speed amateur network would be used.
>
>
>         Agreed.
>
>         For over 20 years our group, the Colorado Repeater Association
> (http://www.qsl.net/cra/), has been building linked, wide-area repeater
> systems (voice and data) in support of emergency services, eg. Public
> Safety, ARES, Red Cross, Salvation Army.  The voice repeaters are fairly
> busy these days, but not like 10 years ago.  The 1200bps AX.25 repeater
> (NOT a digi) is mainly used for intermittent ARES operations.  The
> 9600bps AX.25 repeater (NOT a digi) has been quiet for months.
>
>         Our racks on the mountain tops are full of link hardware (FM
> voice).  Lots of simplex frequencies are dedicated to linking voice from
> one mountain top to another.
>
>         What we need are fat pipes to move the audio (VoIP) from site to
> site.  We've been experimenting for years, but costs have been
> prohibitive for wide deployment.  802.11 brings the promise of
> inexpensive linking hardware coupled with open source software
> (primarily Linux-based) to finally be able to implement the system that
> we've always envisioned.
>
>         We're just getting started on this project in the Denver Metro
> area.
>
> -- The phase 1 activity is to perform line-of-sight range tests using
> 100mw 802.11b APs and 30" dishes.  We wish to confirm the
> back-of-the-napkin path loss calculations.
>
> -- The phase 2 activity is to install a 25 mile Part 15 802.11b
> point-to-point link equipped with data collection software to quantify
> the throughput and the effects of environment and interference on the
> path.  We plan to leave this data collection process in place during
> other operations to collect long term data.  If 802.11b consumer
> deployment grows as expected, we expect to see a corresponding drop in
> throughput over time.  We also expect to see environmental changes by
> time of year and weather.
>
> -- In phase 3, we will deploy VoIP applications and replace the first
> link.  Not only do we free up several simplex channels, but we gain the
> ability to more effectively remotely monitor and control the equipment
> at the site.
>
> -- Once the technology is proven, we will deploy a total of ~6 links to
> provide all the connectivity that we require.
>
>         Like many of you, we have concerns about interference on this
> band especially from the commercial hilltop APs.  (I'm sure our landlord

> wouldn't be happy if we put a paying tenant out of business by running
> Part 97 802.11b close by his installation.)  And, with 802.11g coming up
> soon, we can only expect this band to become more crowded.
>
>         One idea is to move to 802.11a.  We will perform similar studies
> on this band as time permits.
>
>         Another idea is to build a transverter to move 802.11b to the
> 3GHz ham band.  (Is anyone aware of other groups working on this?)
> Obviously, this would move us completely away from the interference, but
> it does increase the cost per installation.  If we did have this option
> available, we would probably deploy it only when particular paths have
> problems on 2.4GHz.
>
>         We'll be sure to report our results and we'll be watching with
> interest what other groups are doing.
>
>         73,
>
>                 Dave
>
> -----
> Dave Maciorowski, WA1JHK
> Colorado Repeater Association, Inc.
>   Serving Colorado with Voice and Data, 6-Meters to 1.2 Gig
>   PO Box 1013, Parker, CO  80134-1013, 303-840-4CRA
>
> Internet: cra@qsl.net
> CRA:      http://www.qsl.net/cra/
>
>
> ---
> You are currently subscribed to ss as: gerry.creager@tamu.edu
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org


--
Gerry Creager -- gerry.creager@tamu.edu
Network Engineering, Academy for Advanced Telecommunications
Texas A&M University, College Station, TX
Office: 979.458.4020 FAX: 979.847.8578 Cell: 979.229.5301 Page: 979.228.0173


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## 83. [ss] Re: High power 802.11

From: Gerry Creager N5JXS <gerry.creager@tamu.edu>
Date: Sun, 20 Oct 2002 08:38:14 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103735-2002.10.20-09.20.50--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Or directly using IPv6...

Steve Lampereur wrote:
> There are a number of ways to embed your callsign within the ethernet
> datagram, you could embed it in the MAC or in a ping for example.
> (http://www.qsl.net/kb9mwr/projects/wireless/pingid.html)
>
> Yes homebrew amps are possible.
> (http://www.qsl.net/n9zia/wireless/appendixB.html) Bus as someone pointed
> out 1 Watt PEP is the max unless you can incorporate "Automatic Transmitter
> Power Control"
>
> Part 97 versus Part 15 and Permissible Power Comparison:
> http://www.qsl.net/kb9mwr/projects/wireless/pwr.html
>
> Ham Ethernet Using Part 15 Wireless Etherenet Devices Under Part 97:
> http://www.qsl.net/kb9mwr/projects/wireless/plan.html
> http://www.qsl.net/kb9mwr/projects/wireless/Ham_Ethernet_GBPPR.pdf
>
>
> ---
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--
Gerry Creager -- gerry.creager@tamu.edu
Network Engineering, Academy for Advanced Telecommunications
Texas A&M University, College Station, TX
Office: 979.458.4020 FAX: 979.847.8578 Cell: 979.229.5301 Page: 979.228.0173

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## 84. [ss] Re: High speed networks...

From: Jeff King <jeff@aerodata.net>
Date: Sun, 20 Oct 2002 12:49:37 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103747-2002.10.20-12.32.29--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Dave:

On Sun, 20 Oct 2002 07:07:46 -0600, Dave Maciorowski wrote:

>-- The phase 2 activity is to install a 25 mile Part 15 802.11b
>point-to-point link equipped with data collection software to

Hmmm.... has anyone actually been documented doing this under part 15? I've heard of occasional 5 mile links and even a 10 mile, but even the WISP's with 200' towers are going to licensed gear to get these kind of link distances.

I've also heard of timing issues with 802.11b over large link distances.

I once did a 12 mile 1 megabit link using some 900mhz WaveLan's but it was on the hairy edge. We had true LOS between the two endpoints. I think Dewayne Hendricks did some 30 mile Part 15 links so maybe he will chime in here.

Not trying to discourage you, but you might want to look into something more robust.  A couple 900mhz FreeWave modems, maybe under Part 15 and certainly under Part 97, should be able to do this assuming LOS and no interfer'ers in the way. They can sustain 115kbaud throughput, so I'd hope that would be enough for VoIP for your repeater.

This is the one area (extreme LOS link distances) that there is an advantage to part 97. Don't forget under Part 15 there are ERP limitations but under Part 97 there are not. So maybe a couple TVRO dishes feed with 1 watt of 802.11b would do it. Remember, while the calculations may show a good link margin, you also want to reduce the receive aperture since you are so exposed on the mountaintop

>Another idea is to build a transverter to move 802.11b to the 3GHz
>ham band.  (Is anyone aware of other groups working on this?)

YDI and Teletronics have commercial transverters that take 2.4ghz to 5ghz. If you review the microwave and VHF/UHF conference proceedings, there are a number of transverter designs for the 3ghz ham band. Most of them use 144mhz as the IF but I imagine their designs might be a good start.

>We also expect to see environmental changes by time of year
>and weather.

The NAB has some good charts relating link margin to expected outage times per year. In my experience it is fairly accurate.

Good luck

-Jeff

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## 85. [ss] Re: High speed networks...

From: "Dewayne Hendricks" <dewayne@warpspeed.com>
Date: Sun, 20 Oct 2002 10:01:26 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>

Message-ID: <LYR6751-103750-2002.10.20-12.44.37--lyris.ss#tapr.org@lists.tapr.org>
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>I once did a 12 mile 1 megabit link using some 900mhz WaveLan's but it was on
>the hairy edge. We had true LOS between the two endpoints. I think Dewayne
>Hendricks did some 30 mile Part 15 links so maybe he will chime in here.
>
>Not trying to discourage you, but you might want to look into something more
>robust.  A couple 900mhz FreeWave modems, maybe under Part 15 and certainly
>under Part 97, should be able to do this assuming LOS and no interfer'ers in
>the way. They can sustain 115kbaud throughput, so I'd hope that would be
>enough for VoIP for your repeater.

    That is basically correct.  During the Dave Hughes NSF Wireless Field
Test project back in '95, we used 900 MHz FreeWave radios over flat
terrain and did links of 40 miles.

-- Dewayne WA8DZP

---
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## 86. [ss] Re: ss digest: October 18, 2002

From: Jim Ussailis <ussailis@equinox.shaysnet.com>
Date: Sun, 20 Oct 2002 14:24:06 -0400 (EDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: ss digest recipients <ss@lists.tapr.org>
Message-ID: <LYR6751-103754-2002.10.20-14.02.52--lyris.ss#tapr.org@lists.tapr.org>
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Free space path loss at 2.45 GHz:

PL = 22 dB + 20 Log(S/lambda) dB  ; where S is range and Lambda is
wavelength. Add to this the antenna gain at both ends of the path.
Subtract the loss of any feedline.

>From experience at 2.7 GHz, the multipath from trees will far outweight
the loss due to tree attenuation. We used a sig gen once to make antenna
patterns of a 24 ft dish on a hill top. On another hilltop, 6 miles away
we had the sig gen feeding a 12 ft dish.

On a windy day, the multipath went between almost a +6 dB increase to almost
30 dB loss.

Jim, W1EQO

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## 87. [ss] Re: mesh networks

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Mon, 21 Oct 2002 09:33:18 +1000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103784-2002.10.20-19.16.11--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> In the U.S. it is illegal for licensed service to communicate
> directly with an unlicensed service.  In this instance, Part 97
> operation cannot communicate with part 15 on the 2.4 GHz band.

Same in VK.  However, it is quite legal to use the licence free networks as
a carrier network and carry the amateur traffic in a VPN tunnel.  The
licence free network would be regarded in a similar manner to the Internet
in this scenario, and we already tunnel data (wormholes/APRS Igates) and
voice (IRLP, Echolink, etc) via the Internet legally.

Using the unlicenced nodes as "carrier nodes" without a VPN is probably in
violation of licence conditions in a lot of countries, because at the packet
level, the amateur station is communicating with a non amateur station
directly, even if the traffic contents only pass between amateur nodes.

In any case, there is a LOT to be gained (like new technically minded hams)
by working with the wireless experimenters.  I'm quite involved in the local
802.11b scene down here for that reason (as well as it's plain good fun to
tinker with the gear). :)

---
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## 88. [ss] Re: High speed networks...

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Mon, 21 Oct 2002 10:00:53 +1000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103785-2002.10.20-19.43.43--lyris.ss#tapr.org@lists.tapr.org>
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> Our racks on the mountain tops are full of link hardware (FM
> voice). Lots of simplex frequencies are dedicated to linking
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> one mountain top to another.
>
> What we need are fat pipes to move the audio (VoIP)
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> site. We've been experimenting for years, but costs have
> been prohibitive
> for wide deployment. 802.11 brings the promise of
> inexpensive linking
> hardware coupled with open source software (primarily Linux-based) to
> finally be able to implement the system that we've always envisioned.

I see a lot of scope for IRLP like technology to link a network of
repeaters. It is possible to do things here that can't be done (in most
cases) on the Internet. For example, the underlying VoIP software that IRLP
uses supports IP multicast. Design a ham network of reasonable speed and we
can suddenly create very economical multicast links. Imagine one 16 or
32kbps stream linking a dozen repeaters across a state? This can't be done
on the Internet as it stands, you'd need a server with enough bandwidth to
support that dozen connections. Want another dozen repeaters? Sure, link
them in, no extra bandwidth required (except the initial stream to be added
where it wasn't propagating before).

IPv6 in the long term would enhance this aspect even more, as IPv6 is
designed with multicast as a standard part of the protocol, not an addin.

I have tried Speak Freely in multicast mode on a wireless LAN at a recent
Melbourne Wireless meeting. It worked very well, and the guys had a ball.
Then pulled out the HT and showed them what VoIP and ham radio together are
capable of...

Yep, I see a lot of scope in regional high speed networks, VoIP, wireless
experimenters and the future of ham radio. We just have to be ambassadors
and salesmen to a large extent. :-)

If you're going to create a routed network, make sure you're running a
multicast routing daemon on the routers. Some of the wireless experimenters
may also be able to help with setting up the routing mesh (there's a number
down here playing with OSPF using modified versions of Zebra - that was the
demo at another of our more practical meetings). Oh, and a number of us are
also operational on IPv6 on the Internet.

---
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## 89. [ss] Re: mesh networks

From: Walt DuBose <dubose@texas.net>
Date: Sun, 20 Oct 2002 20:46:17 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103790-2002.10.20-21.29.01--lyris.ss#tapr.org@lists.tapr.org>
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Tony Langdon wrote:
>
> > In the U.S. it is illegal for licensed service to communicate
> > directly with an unlicensed service.  In this instance, Part 97
> > operation cannot communicate with part 15 on the 2.4 GHz band.
>
> Same in VK.  However, it is quite legal to use the licence free networks as
> a carrier network and carry the amateur traffic in a VPN tunnel.  The
> licence free network would be regarded in a similar manner to the Internet
> in this scenario, and we already tunnel data (wormholes/APRS Igates) and
> voice (IRLP, Echolink, etc) via the Internet legally.
>
> Using the unlicenced nodes as "carrier nodes" without a VPN is probably in
> violation of licence conditions in a lot of countries, because at the packet
> level, the amateur station is communicating with a non amateur station
> directly, even if the traffic contents only pass between amateur nodes.
>
> In any case, there is a LOT to be gained (like new technically minded hams)
> by working with the wireless experimenters.  I'm quite involved in the local
> 802.11b scene down here for that reason (as well as it's plain good fun to
> tinker with the gear). :)
>

I agree 100%.  In fact I know hams (including myself) that use
wireless microphones
to go to their rigs.  And others use their home Wi-Fi to connect
their laptops to
their Packet computer...running packet from the back yard on a
summer day...WoW.
NO PROBLEM.

But let me set up this scenario for you.

I am down in Floresville with 10 hams running a Part 15 network.
We are communications
wise cut off from the outside world.  We have 2M repeater
coverage but need to establish
a high speed link from the hospital, city police, etc. to San
Antonio and the closet I can
get to Floresville is 25 miles.  So now I am forced to use a Part
15 network to span
the 25 miles.  Not likely just after a hurricane with 100 MPH
winds has torn through the
town, followed by a tornado that went down main street and the 14
inches of rain in the
past 36 hours with the San Antonio river running through town at
15 feet above flood stage.
There are two 50 ft towers left in town.  One at the fire station
and one at another city
government location.  Local phone service IS available.

The town is totally cut off.

Wouldn't a Part 97 network with 400 watts ERP be a great asset?
Man would VoIP be
welcomed by the city government, police and fire department
(EMS).

If you think this can't happen, well it did Jul. 2-5, 2002 and it
wasn't a hurricane or

tornado, just high winds and 14 inches of rain.  The town was
completely cut off for
48 hours.  In previous years, that township and others like it
around San Antonio HAVE
been in that situation.

That's MY case for Part 97, 802.11 operation.

WE used the heck out of 2M and of course VHF low band (30-50 MHz)
and VHF high band
(150-170 MHz).  But no Internet or other land line
communications.

Walt/K5YFW

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## 90. [ss] Re: High speed networks...

From: Walt DuBose <dubose@texas.net>
Date: Sun, 20 Oct 2002 20:53:42 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103794-2002.10.20-21.36.37--lyris.ss#tapr.org@lists.tapr.org>
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Comments on top.

Tony,

We have in Texas some really huge linked repeater systems.  They
will a node with a
2M input and one 70cm output in one direction and another 70cm
output in another direction
on another frequency.

They have the capability of direction signals to specific nodes
with out activating
intermediate node outputs.  Of course an individual can tie up
intervening nodes.

What if they had several VoIP channels available running down the
link and then had the
2M output at the node they wanted activated (VoIP to analog) and
they would NOT tie up
the link so others could not use it.

Gee, them my DTMF decoder could block out all other "chatter" on
frequency until someone
called me.

Oh mama! that's what I want.

Walt/K5YFW

Tony Langdon wrote:
>
> >          Our racks on the mountain tops are full of link hardware (FM
> > voice).  Lots of simplex frequencies are dedicated to linking
> > voice from
> > one mountain top to another.
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> them in, no extra bandwidth required (except the initial stream to be added
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> Melbourne Wireless meeting.  It worked very well, and the guys had a ball.
> Then pulled out the HT and showed them what VoIP and ham radio together are
> capable of...
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> Yep, I see a lot of scope in regional high speed networks, VoIP, wireless
> experimenters and the future of ham radio.  We just have to be ambassadors
> and salesmen to a large extent. :-)
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> If you're going to create a routed network, make sure you're running a
> multicast routing daemon on the routers.  Some of the wireless experimenters
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## 91. [ss] Re: mesh networks

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Mon, 21 Oct 2002 12:25:08 +1000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103795-2002.10.20-22.23.18--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Wouldn't a Part 97 network with 400 watts ERP be a great asset?
> Man would VoIP be
> welcomed by the city government, police and fire department
> (EMS).

It would be a good asset.  To make that happen though, we need a solution
that will achieve good penetration in these days of plug and pray hams
(let's face it, most people hand over a lot of cash or plastic and get a
nice shiny box in return that they put on the air).  Those of us who do want
to tinker can certainly look after the infrastructure and routing details.

Mind you, a lot of low powered nodes running Zebra could be worth
experimenting with on a fine day before The Big One comes again...  It might
be that a number of mobile/portable stations with a laptop, battery,
inverter, solar panel and tent perched on all the nearby hills or along the
roadside might be as effective as a long haul link, but with one
difference...  They don't need permanent infrastructure that just got blown
away.  Dunno if it'll be of any use, but we should be looking at all our
options while we can.  After the storm is NOT the time to do it! :)

I agree, we should look at some amateur high speed links, but there are also
more ways to skin the proverbial cat....  Let's investigate all the options
thoroughly with proper field trials and exercises to see how well they stack
up under pressure.  Oh, and we still have good old FM voice, packet and HF
to gall back on if the new fangled stuff isn't up to snuff.  The high speed
networking just adds another string to our bow. :)

---
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## 92. [ss] Re: mesh networks

From: Jeff King <jeff@aerodata.net>
Date: Sun, 20 Oct 2002 22:56:36 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103796-2002.10.20-22.39.35--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Sun, 20 Oct 2002 20:46:17 -0500, Walt DuBose wrote:

>The town is totally cut off.
>
>Wouldn't a Part 97 network with 400 watts ERP be a great asset?

This is a good reason we need to loosen up the Part 97 rules. Take  a look at
this part 15 rule:

=====
15.247(b)(4)(i) Systems operating in the 2400-2483.5 MHz band that are used
exclusively for fixed, point-to-point operations may employ transmitting
antennas with directional gain greater than 6 dBi provided the maximum peak
output power of the intentional radiator is reduced by 1 dB for every 3dB
that the directional gain of the antenna exceeds 6 dBi.
======

Ergo, my 100mw Part 15 Prism card can be hooked to a 36dBi gain antenna,
giving me 56dBm ERP (400 watt ERP) point to point link. Heck of an antenna,
but entirely legal (15.23).

-Jeff

---
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## 93. [ss] Re: mesh networks

From: Bill Vodall - WA7NWP <wa7nwp@yahoo.com>
Date: Sun, 20 Oct 2002 21:54:57 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103807-2002.10.21-00.37.58--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 10:56 PM 10/20/02 -0400, Jeff King wrote:

>This is a good reason we need to loosen up the Part 97 rules. Take  a look at
>this part 15 rule:
>
>=====
>15.247(b)(4)(i) Systems operating in the 2400-2483.5 MHz band that are used
>exclusively for fixed, point-to-point operations may employ transmitting
>antennas with directional gain greater than 6 dBi provided the maximum peak
>output power of the intentional radiator is reduced by 1 dB for every 3dB
>that the directional gain of the antenna exceeds 6 dBi.
>======
>
>Ergo, my 100mw Part 15 Prism card can be hooked to a 36dBi gain antenna,

>giving me 56dBm ERP (400 watt ERP) point to point link. Heck of an antenna,
>but entirely legal (15.23).

Doesn't it have to a "certified" system to make it truly legal?

Probably the best thing the ARRL could do, with its (our!) experience and resources,
would be to lobby the FCC to loosen up the Part-15 system requirements to
allow experimenters to "legally" use Pringles cans or other antennas that actually
work.

That could be part of a proposal to loosen up the SS restrictions for the ham bands.

I see huge benefit from putting SS to use on our mostly vacant VHF and UHF bands.
There's no reason, given the current and rapidly advancing technology, that we
shouldn't be able to actively use SS on 144 to 148 MHz, 1260-1300 MHz, and
430 to 450 MHz.  Smart radios could learn where the existing legacy modes
were used and bypass those channels when they are busy.

I can see no benefit to running Part 97 and competing with the Wi-Fi Part-15 services.
Part 97 content and other restrictions make it a non-player if Part-15 will do the job.
If the low power won't work, then it's time to improve on the antenna or use other innovative
solutions.  We should work with the "Radio Amateurs" using Wi-Fi technology for
experimentation and community networks.  They're the fresh young blood in the field
we've so often heard is needed.

73,
Bill - WA7NWP

---
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## 94. [ss] HSMM Experimenters Group

From: "John Champa" <k8ocl@hotmail.com>
Date: Mon, 21 Oct 2002 01:18:49 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: kilo.mike@gte.net
Message-ID: <LYR6751-103815-2002.10.21-01.01.47--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Gentlemen,

Many of your concerns are simply not warranted based on our actual field
experience.  In the experimental high speed multimedia (HSMM) 2437 Mhz mesh
network (under Part 97) we are deploying in southern Michigan, covering 5
miles with a small dish pointed back to one of the nodes (auto-repeaters) is
a snap, if you know what you're doing.  Yes, we have trees here, too.

The ARRL 802.11b Standard protocol we are developing, coupled with the
exclusive use of horizontal polarization, keeps us out of the way of the
Part 15 vertically polarized users throughout the area, and BTW, gets
through the trees better than vertical polarization.

Come to the ARRL combined HSMM-DV-SDR technical forum at Dayton next year
and get all the details, complete with our design for a 1 watt RF output,
low noise bi-directional amplifier or the omni-directional high-gain
horizontally polarized antenna, either of which you can build for under $50.
  Or, read the QST articles we are planning for 4Q02 or 1Q03.

Running two-way streaming video with full duplex audio along with chat and
text mode, complete with file transfers, all at the same time is not a
problem when you have 1-3 Mbps and free MS NetMeeting software.

Vy 73,
John - K8OCL
Chairman, ARRL HSMM Working Group

_____
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---
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## 95. [ss] Re: HSMM Experimenters Group

From: s.monsey@att.net
Date: Mon, 21 Oct 2002 05:31:23 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103817-2002.10.21-01.14.22--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Do you have a link where we can all read about this?

Steve N0FPF
> Gentlemen,
>
> Many of your concerns are simply not warranted based on our actual field
> experience.  In the experimental high speed multimedia (HSMM) 2437 Mhz mesh
> network (under Part 97) we are deploying in southern Michigan, covering 5
> miles with a small dish pointed back to one of the nodes (auto-repeaters) is
> a snap, if you know what you're doing.  Yes, we have trees here, too.
>
> The ARRL 802.11b Standard protocol we are developing, coupled with the
> exclusive use of horizontal polarization, keeps us out of the way of the
> Part 15 vertically polarized users throughout the area, and BTW, gets
> through the trees better than vertical polarization.
>
> Come to the ARRL combined HSMM-DV-SDR technical forum at Dayton next year
> and get all the details, complete with our design for a 1 watt RF output,
> low noise bi-directional amplifier or the omni-directional high-gain
> horizontally polarized antenna, either of which you can build for under $50.
>   Or, read the QST articles we are planning for 4Q02 or 1Q03.
>
> Running two-way streaming video with full duplex audio along with chat and
> text mode, complete with file transfers, all at the same time is not a
> problem when you have 1-3 Mbps and free MS NetMeeting software.
>
> Vy 73,
> John - K8OCL
> Chairman, ARRL HSMM Working Group
>
>
>
>
> _____
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>
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>

---
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## 96. [ss] Re: High speed networks...

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Mon, 21 Oct 2002 12:27:33 +1000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103826-2002.10.21-03.54.12--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> What if they had several VoIP channels available running down the
> link and then had the
> 2M output at the node they wanted activated (VoIP to analog) and
> they would NOT tie up
> the link so others could not use it.

That'd be a piece of cake with multicast.  :)
>
> Gee, them my DTMF decoder could block out all other "chatter" on
> frequency until someone
> called me.
>
> Oh mama! that's what I want.

Well, for point to point, they'd have to call your IP. :)  However, I'd go
for trying at the infrastructure level first.  The end user gets into issues
such as roaming, which would be a bit more challenging. :)

---
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## 97. [ss] Re: mesh networks

From: Walt DuBose <dubose@texas.net>
Date: Mon, 21 Oct 2002 05:47:46 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103832-2002.10.21-06.30.25--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Tony Langdon wrote:
>
> > Wouldn't a Part 97 network with 400 watts ERP be a great asset?
> > Man would VoIP be
> > welcomed by the city government, police and fire department
> > (EMS).
>
> It would be a good asset.  To make that happen though, we need a solution
> that will achieve good penetration in these days of plug and pray hams
> (let's face it, most people hand over a lot of cash or plastic and get a
> nice shiny box in return that they put on the air).  Those of us who do want
> to tinker can certainly look after the infrastructure and routing details.
>

        I personally like the idea of an "external" device that is tied
to a
        LAN not tied to the computer.  I think anything in the $300
range here
        in the U.S. wouod sell.  I don't know about about down under,
Europe,
        and elsewhere.

> Mind you, a lot of low powered nodes running Zebra could be worth
> experimenting with on a fine day before The Big One comes again...  It might
> be that a number of mobile/portable stations with a laptop, battery,
> inverter, solar panel and tent perched on all the nearby hills or along the
> roadside might be as effective as a long haul link, but with one
> difference...  They don't need permanent infrastructure that just got blown
> away.  Dunno if it'll be of any use, but we should be looking at all our
> options while we can.  After the storm is NOT the time to do it! :)

        Solar panels, during our storms we don't get enough sun to run
anything
        off of solar.  And "hills", you have got to be kidding.  Roof
tops are the
        highest things south of here.
>
> I agree, we should look at some amateur high speed links, but there are also
> more ways to skin the proverbial cat....  Let's investigate all the options
> thoroughly with proper field trials and exercises to see how well they stack
> up under pressure.  Oh, and we still have good old FM voice, packet and HF
> to gall back on if the new fangled stuff isn't up to snuff.  The high speed
> networking just adds another string to our bow. :)
>
        Yes, its true but I have yet to see a portable packet stations.
But the
        folks who do emergency communications have computers.  The

packetters
        generally don't work emergency communications and those who do
don't
        work packet.

> ---
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## 98. [ss] Re: High speed networks...

From: Walt DuBose <dubose@texas.net>
Date: Mon, 21 Oct 2002 05:50:01 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103834-2002.10.21-06.32.47--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Tony Langdon wrote:
>
> > What if they had several VoIP channels available running down the
> > link and then had the
> > 2M output at the node they wanted activated (VoIP to analog) and
> > they would NOT tie up
> > the link so others could not use it.
>
> That'd be a piece of cake with multicast.  :)

        Whatever...
> >
> > Gee, them my DTMF decoder could block out all other "chatter" on
> > frequency until someone
> > called me.
> >
> > Oh mama! that's what I want.
>
> Well, for point to point, they'd have to call your IP. :)  However, I'd go
> for trying at the infrastructure level first.  The end user gets into issues
> such as roaming, which would be a bit more challenging. :)
>

        I think that you "broadcast" the DTMF tone and then when you
answer
        you tie up only the node you are on.  You would have to build in
some
        "intelligence" into the system.

>

---
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## 99. [ss] Re: mesh networks

From: Walt DuBose <dubose@texas.net>
Date: Mon, 21 Oct 2002 05:54:49 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103835-2002.10.21-06.37.31--lyris.ss#tapr.org@lists.tapr.org>
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Jeff King wrote:
>

> 
> 
> Ergo, my 100mw Part 15 Prism card can be hooked to a 36dBi gain antenna,
> giving me 56dBm ERP (400 watt ERP) point to point link. Heck of an antenna,
> but entirely legal (15.23).
> 
> -Jeff
> 

And how much signal can you put into an antenna at the end of a
60ft coax run
and what if you need to talk in 3 different directions at the
same time?

---
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## 100. [ss] Re: High speed networks...

From: Gerry Creager N5JXS <gerry.creager@tamu.edu>
Date: Mon, 21 Oct 2002 06:40:22 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103839-2002.10.21-07.22.58--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

It's all well and good to know multicast make things easier, but between
the state of commercial hardware and today's commodity Internet,
multicast is almost, but not quite, a fiction.

Now, if er want to talk about building this project based on a backbone
of Linux or FreeBSD routers, we can talk reasonably about incorporating
both IPv6  and multicast.  And extant VoIP (voice and/or video).

I agree that the first step is a well designed and implemented
infrastructure.  Or maybe that's second.  First is limiting potential
users' expectations to something realistic.  Then, build it and they
will come.

gerry

Tony Langdon wrote:
>>What if they had several VoIP channels available running down the
>>link and then had the
>>2M output at the node they wanted activated (VoIP to analog) and
>>they would NOT tie up
>>the link so others could not use it.
> 
> 
> That'd be a piece of cake with multicast.  :)
> 
>>Gee, them my DTMF decoder could block out all other "chatter" on
>>frequency until someone
>>called me.
>>
>>Oh mama! that's what I want.
> 
> 
> Well, for point to point, they'd have to call your IP. :)  However, I'd go
> for trying at the infrastructure level first.  The end user gets into issues
> such as roaming, which would be a bit more challenging. :)
> 
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> 
> Any opinions expressed in this message are those of the individual sender.
> 
> 
> ---
> You are currently subscribed to ss as: gerry.creager@tamu.edu

> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

--
Gerry Creager -- gerry.creager@tamu.edu
Network Engineering, Academy for Advanced Telecommunications
Texas A&M University, College Station, TX
Office: 979.458.4020 FAX: 979.847.8578 Cell: 979.229.5301 Page: 979.228.0173

---
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## 101. [ss] Re: mesh networks

From: Gerry Creager N5JXS <gerry.creager@tamu.edu>
Date: Mon, 21 Oct 2002 07:10:28 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103841-2002.10.21-07.53.04--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Walt DuBose wrote:
> Jeff King wrote:
>>
>>Ergo, my 100mw Part 15 Prism card can be hooked to a 36dBi gain antenna,
>>giving me 56dBm ERP (400 watt ERP) point to point link. Heck of an antenna,
>>but entirely legal (15.23).
>
> And how much signal can you put into an antenna at the end of a
> 60ft coax run

You mount the AP at the antenna with a media converter and run multimode
fiber down the mast.  This should be part of the jump kit.

> and what if you need to talk in 3 different directions at the
> same time?

Antennas selection.  And site selection.

If the infrastructure is in place, then you have paths to the various
sites.  If it's not, you're going to have it add it in the midst of an
emergency.

In the old days, we implemented 220 MHz stations and a network of
repeaters in all the hospitals in Fort Worth, Tx.  Checked them
regularly, made them as bullet-proof as possible.  Used wire-remotes to
get the handset down to the operations area.  But, they weren't sexy, so
  the local hospital association decided to spend big bucks on getting
their own inter-hospital network of voice systems.  Well, first big
storm that came through, when they expected to not need the hams, with
the planned and tested infrastructure, they discovered that their
repeater on the 1000 ft tower had lost antenna and coax in the wind,
because it was too exposed to a big blow.

The moral here is that we have, generally, a different mindset and
experience level than the 2-way community about installation,
maintenance and checkout of emergency gear.  If we plan for worst-case
storm damage contingencies, we tend to have gear working and in place up
to the point that one of those hurricane-spawned tornados removes the
structure.

So: design it so that you have coverage to the EOC, hospitals and normal
shelters.  Think of a star topology with a central repeater/router.  Use
an omni at the core and yagis or dishes at the edge.  Consider multiple,
meshed core routers for failover redundancy.  Use OSPF (who remembers
using RSPF v0.1?) to achieve the failover mesh.  If a link to the
internet exists, plan to use EGRP/BGP to achieve appropriate linkage to
the outside world.

This is a pretty standard engineering exercise, complicated mainly by
our unique restrictions on RF power and antennas as set down by the
Feds, and by our requirements for robust operation post-event.  It
approaches, but really is not, rocket science.  It does call for a good
design phase prior to implementation.

--
Gerry Creager -- gerry.creager@tamu.edu
Network Engineering, Academy for Advanced Telecommunications

Texas A&M University, College Station, TX
Office: 979.458.4020 FAX: 979.847.8578 Cell: 979.229.5301 Page: 979.228.0173

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## 102. [ss] Re: mesh networks

From: Ron Schroeder <rjs@bnl.gov>
Date: Mon, 21 Oct 2002 08:11:53 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103843-2002.10.21-07.54.51--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

<snip>
> > For instance, it seems to be quite legal for
> > a licence-free repeater to carry amateur traffic
> > between amateur stations.
>
> exactly.  Part 15 can carry part 97 but part 97 can't carry part 15.

This gets me a little confused.  Does this mean, e.g., I CAN put a part 15
wireless remote speaker on my Ham HF xcvr, but I CAN'T put a part 15
wireless mic. on it?

Ron Schroeder
WD8CDH
day 631 344-4561
nite 631 286-5677

---
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## 103. [ss] Re: High speed networks...

From: "Mike McCarthy, W1NR" <w1nr@eecorp.com>
Date: Mon, 21 Oct 2002 08:12:14 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103844-2002.10.21-07.55.10--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Multicast and broadcast actually makes things more difficult when
wireless networks are involved.  You must take into account the fact
that not all nodes on a wireless network can hear each other.  When
a client sends a broadcast or multicast packet to a node, it must be
retransmitted by the node so that all of the associated clients can
see the packet.  The problem becomes more acute when multiple
point-to-point links using high gain directional antenna are involved.
In this case, the usual procedure is to retransmit the packet to each
PtP node individually greatly decreasing the available bandwidth of the
whole network.

Mike, W1NR

-----Original Message-----
From: bounce-ss-28630@lists.tapr.org
[mailto:bounce-ss-28630@lists.tapr.org]On Behalf Of Gerry Creager N5JXS
Sent: Monday, October 21, 2002 7:40 AM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] Re: High speed networks...

It's all well and good to know multicast make things easier, but between
the state of commercial hardware and today's commodity Internet,
multicast is almost, but not quite, a fiction.

Now, if er want to talk about building this project based on a backbone
of Linux or FreeBSD routers, we can talk reasonably about incorporating
both IPv6  and multicast.  And extant VoIP (voice and/or video).

I agree that the first step is a well designed and implemented
infrastructure.  Or maybe that's second.  First is limiting potential
users' expectations to something realistic.  Then, build it and they
will come.

gerry

Tony Langdon wrote:
>>What if they had several VoIP channels available running down the
>>link and then had the
>>2M output at the node they wanted activated (VoIP to analog) and
>>they would NOT tie up
>>the link so others could not use it.
>
>
> That'd be a piece of cake with multicast.  :)
>
>>Gee, them my DTMF decoder could block out all other "chatter" on
>>frequency until someone
>>called me.
>>
>>Oh mama! that's what I want.
>
>
> Well, for point to point, they'd have to call your IP. :)  However, I'd go
> for trying at the infrastructure level first.  The end user gets into
issues
> such as roaming, which would be a bit more challenging. :)
>
> ---
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>
>
> ---
> You are currently subscribed to ss as: gerry.creager@tamu.edu
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--
Gerry Creager -- gerry.creager@tamu.edu
Network Engineering, Academy for Advanced Telecommunications
Texas A&M University, College Station, TX
Office: 979.458.4020 FAX: 979.847.8578 Cell: 979.229.5301 Page: 979.228.0173


---
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---
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## 104. [ss] Re: High speed networks...

From: Gerry Creager N5JXS <gerry.creager@tamu.edu>
Date: Mon, 21 Oct 2002 07:26:39 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103845-2002.10.21-08.09.15--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Very good points.  I shoulda had more coffee.

We still need to work with a combined multicast/broadcast concept.  We
need to consider your points, however.  What you're strongly arguing for
is an intelligent routed core with multicast capable routers, as well as
making each edge node either a bridge or another multicast capable router.

Think true star or modified star topology.

But, we're devolving into design minutia here.  Is it time for that?

gerry

Mike McCarthy, W1NR wrote:
> Multicast and broadcast actually makes things more difficult when
> wireless networks are involved.  You must take into account the fact
> that not all nodes on a wireless network can hear each other.  When
> a client sends a broadcast or multicast packet to a node, it must be
> retransmitted by the node so that all of the associated clients can
> see the packet.  The problem becomes more acute when multiple
> point-to-point links using high gain directional antenna are involved.
> In this case, the usual procedure is to retransmit the packet to each
> PtP node individually greatly decreasing the available bandwidth of the
> whole network.
>
> Mike, W1NR
>
> -----Original Message-----
> From: bounce-ss-28630@lists.tapr.org
> [mailto:bounce-ss-28630@lists.tapr.org]On Behalf Of Gerry Creager N5JXS
> Sent: Monday, October 21, 2002 7:40 AM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: High speed networks...
>
>
> It's all well and good to know multicast make things easier, but between
> the state of commercial hardware and today's commodity Internet,
> multicast is almost, but not quite, a fiction.
>
> Now, if er want to talk about building this project based on a backbone
> of Linux or FreeBSD routers, we can talk reasonably about incorporating
> both IPv6  and multicast.  And extant VoIP (voice and/or video).
>
> I agree that the first step is a well designed and implemented
> infrastructure.  Or maybe that's second.  First is limiting potential
> users' expectations to something realistic.  Then, build it and they
> will come.
>
> gerry
>
> Tony Langdon wrote:
>
>>>What if they had several VoIP channels available running down the
>>>link and then had the
>>>2M output at the node they wanted activated (VoIP to analog) and
>>>they would NOT tie up
>>>the link so others could not use it.
>>
>>
>>That'd be a piece of cake with multicast.  :)
>>
>>
>>>Gee, them my DTMF decoder could block out all other "chatter" on
>>>frequency until someone
>>>called me.
>>>
>>>Oh mama! that's what I want.
>>
>>
>>Well, for point to point, they'd have to call your IP. :)  However, I'd go
>>for trying at the infrastructure level first.  The end user gets into
>
> issues
>
>>such as roaming, which would be a bit more challenging. :)
>>
>>---
>>Outgoing mail has been scanned for Viruses
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>>Version: 6.0.404 / Virus Database: 228 - Release Date: 15/10/2002
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>
>
>
> --
> Gerry Creager -- gerry.creager@tamu.edu
> Network Engineering, Academy for Advanced Telecommunications
> Texas A&M University, College Station, TX
> Office: 979.458.4020 FAX: 979.847.8578 Cell: 979.229.5301 Page: 979.228.0173
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--
Gerry Creager -- gerry.creager@tamu.edu
Network Engineering, Academy for Advanced Telecommunications
Texas A&M University, College Station, TX
Office: 979.458.4020 FAX: 979.847.8578 Cell: 979.229.5301 Page: 979.228.0173


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 105. [ss] Re: High speed networks...

From: dubose@texas.net
Date: Mon, 21 Oct 2002 08:47:38 US/Central
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103850-2002.10.21-09.30.25--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Multicast and broadcast actually makes things more difficult when
> wireless networks are involved.  You must take into account the fact
> that not all nodes on a wireless network can hear each other.  When
> a client sends a broadcast or multicast packet to a node, it must be
> retransmitted by the node so that all of the associated clients can
> see the packet.  The problem becomes more acute when multiple
> point-to-point links using high gain directional antenna are involved.
> In this case, the usual procedure is to retransmit the packet to each
> PtP node individually greatly decreasing the available bandwidth of the
> whole network.
>
> Mike, W1NR

With respect to Gerry's later reply to this E-Mail...it doesn't matter if you
are on 20M, 2M or 802.11 on 2.4 GHz, the hidden transmitter will bite you in
the pants every time that you don't take it into consideration.

Walt/K5YFW


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 106. [ss] Re: mesh networks

From: "Lyle Johnson" <wa7gxd@fidalgo.net>
Date: Mon, 21 Oct 2002 06:54:05 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103851-2002.10.21-09.38.33--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> > Ergo, my 100mw Part 15 Prism card can be hooked to a 36dBi gain antenna,
> > giving me 56dBm ERP (400 watt ERP) point to point link. Heck of
> > an antenna, but entirely legal (15.23).

> And how much signal can you put into an antenna at the end of a
> 60ft coax run

At S band you put the Tx and Rx at the antenna, not at the end of a 60'
coax!

> and what if you need to talk in 3 different directions at the
> same time?

You use the mesh network...

Regards,

Lyle KK7P

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 107. [ss] Re: mesh networks

From: dubose@texas.net
Date: Mon, 21 Oct 2002 09:59:55 US/Central
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103859-2002.10.21-10.42.44--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> > > Ergo, my 100mw Part 15 Prism card can be hooked to a 36dBi gain antenna,
> > > giving me 56dBm ERP (400 watt ERP) point to point link. Heck of
> > > an antenna, but entirely legal (15.23).
>
> > And how much signal can you put into an antenna at the end of a
> > 60ft coax run
>
> At S band you put the Tx and Rx at the antenna, not at the end of a 60'
> coax!
>
   Agree.  But from the text of the original E-mail it sounded like
   the reference was to a NIC in the PC.

   Now the question is, will a the device work in 120 deg Texas sun
   on my tower where the metal gets hot enough to fry an egg on?

> > and what if you need to talk in 3 different directions at the
> > same time?
>
> You use the mesh network...
>
   Don't you still have to consider the hidden transmitter effect?

> Regards,
>
> Lyle KK7P
>

  73,

  Walt/K5YFW
> ---
> You are currently subscribed to ss as: dubose@texas.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 108. [ss] Re: mesh networks

From: "Lyle Johnson" <wa7gxd@fidalgo.net>
Date: Mon, 21 Oct 2002 08:15:51 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103861-2002.10.21-11.00.23--lyris.ss#tapr.org@lists.tapr.org>

Rendered body type: text/plain

>    Agree.  But from the text of the original E-mail it sounded like
>    the reference was to a NIC in the PC.

But you can make a widget to remote it...
>
>    Now the question is, will a the device work in 120 deg Texas sun
>    on my tower where the metal gets hot enough to fry an egg on?

We did a similar system (e.g., a 2.4 GHz DSSS transceiver using PRISM
chipset components, with the RF remoted and the digital stuff local) in
Tucson a few years ago where it got plenty warm :-)

> > > and what if you need to talk in 3 different directions at the
> > > same time?
> >
> > You use the mesh network...
> >
>    Don't you still have to consider the hidden transmitter effect?

Always.  Part of the network protocol design.

73,

Lyle KK7P

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 109. [ss] Re: mesh networks

From: Jeff King <jeff@aerodata.net>
Date: Mon, 21 Oct 2002 10:58:21 -0500 (CDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103865-2002.10.21-11.41.08--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Quoting Bill Vodall - WA7NWP <wa7nwp@yahoo.com>:

> At 10:56 PM 10/20/02 -0400, Jeff King wrote:

> >Ergo, my 100mw Part 15 Prism card can be hooked to a 36dBi gain
> antenna,
> >giving me 56dBm ERP (400 watt ERP) point to point link. Heck of an
> antenna,
> >but entirely legal (15.23).
>
> Doesn't it have to a "certified" system to make it truly legal?

15.23

It needs to be certified if made for resale or more then 5 units.

-Jeff

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 110. [ss] Re: mesh networks

From: dubose@texas.net
Date: Mon, 21 Oct 2002 10:59:58 US/Central
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103867-2002.10.21-11.42.53--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> >    Agree.  But from the text of the original E-mail it sounded like
> >    the reference was to a NIC in the PC.
>
> But you can make a widget to remote it...

   Gotcha.  how about the LinkSys WET11?  Do you think it would survive
   outside in a tupperware container?

> >
> >    Now the question is, will a the device work in 120 deg Texas sun

> >    on my tower where the metal gets hot enough to fry an egg on?
>
> We did a similar system (e.g., a 2.4 GHz DSSS transceiver using PRISM
> chipset components, with the RF remoted and the digital stuff local) in
> Tucson a few years ago where it got plenty warm :-)

    Well, if something will survive in Tuscon, it should survive the
    cool tempertures of Texas.  I've been through Tuscon many times and
    try to always get to the Arizona border after sundown and leave before
    the sun gets too high in the sky.

>
> > > > and what if you need to talk in 3 different directions at the
> > > > same time?
> > >
> > > You use the mesh network...
> > >
> > >    Don't you still have to consider the hidden transmitter effect?
> >
> Always.  Part of the network protocol design.

     Ok, that's good to know.  You guys are the experts on protocol.

     Thanks for the input and info.

     Walt/K5YFW
>
> 73,
>
> Lyle KK7P
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 111. [ss] Re: mesh networks

From: Bill Vodall - WA7NWP <wa7nwp@yahoo.com>
Date: Mon, 21 Oct 2002 09:02:30 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103869-2002.10.21-11.45.28--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>
> >  and what if you need to talk in 3 different directions at the
> >  same time?

Community wireless folks are designing backbone nodes with multiple
radios.  Dedicated links in each direction as necessary.   Just like
we used to talk about doing for legacy packet.   Isolation between
systems at 2.4 GHz is easier to obtain then at 144 MHz or 440 MHz.

Bill, WA7NWP

---
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## 112. [ss] Re: mesh networks

From: Jeff King <jeff@aerodata.net>
Date: Mon, 21 Oct 2002 11:13:28 -0500 (CDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103870-2002.10.21-11.56.19--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Quoting Walt DuBose <dubose@texas.net>:

> Jeff King wrote:

> > Ergo, my 100mw Part 15 Prism card can be hooked to a 36dBi gain
> antenna,
> > giving me 56dBm ERP (400 watt ERP) point to point link. Heck of an
> antenna,
> > but entirely legal.
> >

> > -Jeff
> >
>
> And how much signal can you put into an antenna at the end of a
> 60ft coax run

I guess that depends on the loss of your coax. At 2.4ghz I'd avoid long coax
runs regardless of what section of the rules one operates under.

> and what if you need to talk in 3 different directions at the
> same time?

Three radios? Omni? Don't really understand the question.

-Jeff

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 113. [ss] Re: mesh networks

From: Jeff King <jeff@aerodata.net>
Date: Mon, 21 Oct 2002 11:17:46 -0500 (CDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103871-2002.10.21-12.00.36--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Quoting dubose@texas.net:

> > At S band you put the Tx and Rx at the antenna, not at the end of a
> 60'
> > coax!
> >
>    Agree.  But from the text of the original E-mail it sounded like
>    the reference was to a NIC in the PC.

WET11 with POE.

-Jeff

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 114. [ss] Re: mesh networks

From: dubose@texas.net
Date: Mon, 21 Oct 2002 11:25:54 US/Central
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103872-2002.10.21-12.08.41--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>
> >
> > >  and what if you need to talk in 3 different directions at the
> > >  same time?
>
> Community wireless folks are designing backbone nodes with multiple
> radios.  Dedicated links in each direction as necessary.   Just like
> we used to talk about doing for legacy packet.   Isolation between
> systems at 2.4 GHz is easier to obtain then at 144 MHz or 440 MHz.
>
> Bill, WA7NWP

That's a good idea and one way to do it; but, the question is will hams be
willing to buy several "data radios" to do this.  I can afford maybe two WET11s
and a couple of antennas...and I have 60ft of really low loss hardline that I
use portable.  I even have a portable 30ft tower.  But I think I am the
exception.

What is the average ham willing to buy/deploy?  Those are the individuals who
would be the meat of a deployable network operation.

If this is the way to go then maybe its better to have a separate "device" like
the LinkSys WET11. (No I"m not selling them nor do I have have stock in
LinkSys...Hi Hi...I 'msimply am using it as an example.)

Walt/K5YFW

---
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## 115. [ss] Re: mesh networks

From: Jeff King <jeff@aerodata.net>
Date: Mon, 21 Oct 2002 11:40:30 -0500 (CDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103874-2002.10.21-12.23.18--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Quoting dubose@texas.net:

> That's a good idea and one way to do it; but, the question is will hams
> be
> willing to buy several "data radios" to do this.

These are the same guys that dump $2000+ on a HF radio along with all the attendent antennas, ect ect?

> I can afford maybe two WET11s and a couple of antennas...

Paid $98 for a WET11 last week. Superpass has a 8dBi omni for $60 or a 24dBi dish antenna (from Calfornia Microwave) is about the same price.

> and I have 60ft of really low loss hardline

No coax. You run a ethernet cable to the WET11, and run the power for it on the unused 100baseT pairs. WET11 is mounted to the back of your antenna. Use a Serpac NMEA box from digikey.

> What is the average ham willing to buy/deploy?  Those are the
> individuals who would be the meat of a deployable network operation.

The real question is "does the average ham" have a need for something like this? I don't think money is the issue, it is the need. If SS high speed useage is to take off in amateur radio, IMHO, most of the new influx will come from outside the hobby. The computer geeks have a real need and vision for high speed community networks. We just need to make part 97 attractive to them.

BTW, when I was involved in the TAPR SS STA back a few years ago, I gave a number of presentations on our work in Ann Arbor/Detroit. Both at ham clubs and computer clubs. The ham presentations mostly focused on this new "mode" and after words a few of them approached me after the talk and expressed interest in "working this new mode". The computer clubs where a entirely different story. They where very interesting in what they could do with spread spectrum wirless. They had a real compelling use for it. They had a vision.

This is the difference.

Regards,

Jeff

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 116. [ss] Re: mesh networks

From: Ron Schroeder <rjs@bnl.gov>
Date: Mon, 21 Oct 2002 15:53:11 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103887-2002.10.21-15.36.20--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

----- Original Message -----
From: "Walt DuBose" <dubose@texas.net>
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Sent: Monday, October 21, 2002 6:47 AM
Subject: [ss] Re: mesh networks

<snip>
> Solar panels, during our storms we don't get enough sun to run
> anything
> off of solar.

That is true but that is what batteries are for and also, usually the sun
come out again long before utility power is restored.

Ron Schroeder
WD8CDH
day 631 344-4561
nite 631 286-5677
2KW of solar panels and 3000AH of batteries on my house.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 117. [ss] Re: mesh networks

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Mon, 21 Oct 2002 21:24:42 +0100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103888-2002.10.21-16.08.09--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Now, what would be interesting is to see if the
> ID was required in MORSE CODE or it was required
> using CW modulation. These are not the same thing.

Ok wiseguy!

You're correct, it should be in "morse telegraphy or telephony".
So emitting a .wav file of dahs and dits using some kind of
broadcast media protocol would seem legal, if I chose to
adopt that format for morse traffic. Or just "." and "-" in ascii.

It does not say CW (or A1A) modulation.

I could adopt any modulation for morse code.

The only thing to watch is the 20wpm; WLANs would
transmit even a wav file much faster than real-time. But I
could hack up a tcl script in 10 minutes that bumps out
my callsign in "." and "-" s-l-o-w-l-y...

Ant M1FDE

For those that give a toss, (else ignore) the full words are:

Identification
7(1) subject to sub-clause (lA) below, which does not apply to operation via
repeaters during transmissions, the Licensee shall transmit the callsign
specified in the Validation Document:
(a) during initial calls ("CQ" calls);
(b) at the beginning and at the end of each period of communication with
a licensed amateur and when the period of communication is longer
than 15 minutes, at the end of each interval of 15 minutes;
(c) at the beginning of transmission on a new frequency (whenever the
frequency of transmission is changed);
(d) by the same type of transmission that is being used for the
communication;
(e) on the same carrier frequency that is being used for the
communication; and
(f) by morse telegraphy or telephony, at the end of each 30 minute period
during which transmissions are sent from the Station (unless already
transmitting in morse telegraphy or telephony). If the Licensee is
conducting automatic operations involving digital communications
then he shall transmit the callsign under this sub-clause at a maximum
speed of 20 words per minute.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 118. [ss] Re: mesh networks

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Mon, 21 Oct 2002 21:41:10 +0100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103889-2002.10.21-16.24.38--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> In the U.S. it is illegal for licensed service to communicate
> directly with an unlicensed service.  In this instance, Part 97

Is that exactly what it says? too bad.

In anycase, WLANs are "license-free" or "license-exempt", not
"unlicensed." An "unlicensed service" would be illegal!

AFAICT the amateur licence only covers the licensee and the
licensee's station.

So if he transmits traffic to an amateur and receives traffic from an
amateur then he's compliant. If the traffic goes via a 3rd party
passive or active reflector it's not relevant to his licence at all.

The exact phrase in my license is "The Licensee shall address
Messages only to other licensed amateurs or the stations of
licensed amateurs". This restricts only the intended target
destination at the time a message is composed by the operator.
How the messages get there once addressed and transmitted,
or to whom it then actually goes, is not and cannot be regulated
as it happens beyond the bounds of the station. The clause says
nothing about any routing info which I could add to the message,
only the addressed end recipient. Also, "Message" is understood
to mean the text or speech that comes from the person, and not
the data framing or protocol added by equipment.

The "licence-free" wlan device, OTOH, doesn't have any rules
about traffic at all. Only about powers and bandwidths. The old
Wireless Telegraphy act forbids persons disclosing messages
they received but not intended for them, but persons are not
going to see any traffic forwarded by their WLAN node, and it
will only hold meaningless fragments of messages anyway.

There is plenty of precedent for 3rd parties handling
amateur traffic. For a kickoff, the ionosphere and the
moon have never been amateur licensees. When
commercial repeaters intrude on amateur bands, the
usual response is to use them as much as possible!
And then we also have a lot of internet linking, and
who knows how many non-amateur wireless LOS links
that goes over, encrypted as well.

You are not normally required to go and verify the
credentials of every packet digipeater you operate
through - If your packet got routed through a bogus
one I don't see that as cause for getting /your/ licence
revoked. In particular, unattended repeaters usually
operate under a different license to yours, so repeaters
don't have to be compliant to your own license rules.

There is also the issue with network-management
data (rather than traffic) going to and from 3rd party
computers. But as far as I see it, you're supposed to
have dialogue with other users of shared bands to
negotiate proper process to avoid interference.
That's always been the reason for having common
modes like morse.
When your AP goes to his AP and agrees not
to shout at the same time, but to co-operate in the
'best practice' for such devices to limit mutual
interference, that equates to the same thing. We
should encourage politeness and mutual assistance
on shared bands, and not try to shut our ears to other
users. Be that the attitude of operators, or that of
firmware.

The objective of the rules is to keep amateur spectrum
free for amateurs, and to stop people using an amateur
ticket for commercial traffic. When everyone has free
access anyway to this chunk of spectrum, this becomes

somewhat irrelevant.

In all the other shared bands, the other user (eg the
military, the aviation authority) manages and organises
his spectrum use and co-operates (to more or less
degree)  with amateurs through official channels. He
has very different objectives to amateurs. Nobody is
managing 2.4GHz users. The only management will be
through community WLAN organisations or amateurs
taking the lead and educating people about how radio
works. Or automatic management of the nodes in
question by in-built protocols.

Shared users of the band should be friends, not foes.
If that puts me at odds with some country's band
planning authorities, then so be it. It don't like it as
a reason to design equipment with war-like in-built
confrontation & distrust, and de-programmed
for anti-interoperability.

Ant

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 119. [ss] Re: mesh networks

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Tue, 22 Oct 2002 08:06:15 +1000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103899-2002.10.21-17.49.08--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> I personally like the idea of an "external" device that is tied
> to a
> LAN not tied to the computer.  I think anything in the $300
> range here
> in the U.S. wouod sell.  I don't know about about down under,
> Europe,
> and elsewhere.

Well, I'm sure some sort of embedded device could be made, though most of us
have found broken laptops running Linux have been the cheapest way out (who
needs a screen on their router? :) ).

> Solar panels, during our storms we don't get enough sun to run
> anything
> off of solar.  And "hills", you have got to be kidding.  Roof
> tops are the
> highest things south of here.

Well, that's what SLA's are for.  I've got a 55AH SLA.  I'm sure that'd keep
me going until the weather cleared enough to allow reasonable sunlight to
filter in.  Often the emergency period lasts somewhat longer than the storm,
and it's that extended period where the solar generation is most useful.

Of course, in the tradition of the Royal Flying Doctor Service, pedal power
could be used.... :-)

> Yes, its true but I have yet to see a portable packet stations.
> But the
> folks who do emergency communications have computers.  The
> packetters
> generally don't work emergency communications and those who do
> don't
> work packet.

Well, any TNC can be configured as a digi and left in a convenient place.
Some also support smart switching/routing, or you can add things such as
NET/ROM.  All running off a SLA.

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---
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## 120. [ss] Re: High speed networks...

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Tue, 22 Oct 2002 08:07:14 +1000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103900-2002.10.21-17.50.16--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> I think that you "broadcast" the DTMF tone and then when you
> answer
> you tie up only the node you are on. You would have to build in
> some
> "intelligence" into the system.

DTMF tone? I thought we were going digital...

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or privilege is waived or lost by any mistransmission. If you receive this
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## 121. [ss] Re: ss digest: October 20, 2002

From: Jim Ussailis <ussailis@equinox.shaysnet.com>
Date: Mon, 21 Oct 2002 21:44:28 -0400 (EDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: ss digest recipients <ss@lists.tapr.org>
Message-ID: <LYR6751-103930-2002.10.21-21.23.16--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Two items:

1. Getting on the 3 GHz ham band with 802.11 stuff is easy. Get a
Minicircuits catalog, choose a mixer and an amplifier. Then you will need
a local oscillator. This may be the difficult part as those VCOs that
minicircuits sells are made to be controlled by a phase-locked loop. They
are not stable otherwise.

But, you can usually talk for (or marginally pay for) a "developers board"
for a phased-lock loop oscillator circuit from one of the big guys that
manufacture PLL ICs. Some of them come with all parts...ocassionally
installed!

Now your "upconverter," suitable for either reception of transmission is
ready to be cabled and provided power. If you are really swift, you could
add a couple of solid=state switches to make a bidirectional converter.

For good info on solid-state swiches see Microwave Semiconductor
Engineering by White (who I believe is also a ham). One can easily be
fabricated with two diodes and a very small amount of pc board.

2. Maximizing link gain.

On thise very long Part 15 paths, try also rotating each antenna just a
bit in elevation. This will allow the ground-bounce multipath to either
enhance the signal, or lessen the reduction of the signal.

This trick is nothing new. It is done on all "ground-bounce" antenna
ranges such as the one at MIT LL.

Jim, W1EQO

---
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## 122. [ss] Re: mesh networks

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Tue, 22 Oct 2002 08:10:50 +1000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103949-2002.10.21-23.39.24--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> You mount the AP at the antenna with a media converter and
> run multimode
> fiber down the mast.  This should be part of the jump kit.

With some APs, you can use Power over Ethernet (PoE) to run DC and Ethernet
up a Cat 5 cable to a mast mounted AP.  Several of the guys down here are
using that technique to avoid feedline losses.

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## 123. [ss] Re: mesh networks

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Tue, 22 Oct 2002 09:00:53 +1000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103951-2002.10.21-23.39.39--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> No coax. You run a ethernet cable to the WET11, and run the
> power for it on the
> unused 100baseT pairs. WET11 is mounted to the back of your
> antenna. Use a
> Serpac NMEA box from digikey.

As I said, Power over Ethernet (PoE).  Several here have homebrewed PoE
feeds with a lot of success (one of the Melbourne Wireless guys was showing
off his modified AP and PoE feed for masthead use at the last meeting).

> BTW, when I was involved in the TAPR SS STA back a few years
> ago, I gave a
> number of presentations on our work in Ann Arbor/Detroit.
> Both at ham clubs and
> computer clubs. The ham presentations mostly focused on this
> new "mode" and
> after words a few of them approached me after the talk and
> expressed interest
> in "working this new mode". The computer clubs where a
> entirely different
> story. They where very interesting in what they could do with
> spread spectrum
> wirless. They had a real compelling use for it. They had a vision.

I think you're right.  The real push in this area is coming from the
computer geeks who just want to shovel data around at reasonable speed and
low ongoing cost (I resemble that remark ;) ).  A lot have faced the reality
of learning a lot of new things such as antennas and propagation, basic
electronics and advanced networking, but the end result is everyone learns.
Add a ham or two to the mix <switches hats>, and things can really start to
happen.  My aim is to go full circle and get some of the wireless guys into
ham radio itself, as well as (not instead of) working with the unlicenced
mesh network.  That kind of cross-pollination can only be good for both
activities, as long as we're open to it.  The kind of people that get into
wireless networking have skills that ham radio could do with more of -
programming, networking, UNIX/Linux, and so-on.  In return, we have the

experience with radio and antennas that they tend to lack.
>
> This is the difference.

Let's use it to everyone's advantage.

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## 124. [ss] Re: mesh networks

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Tue, 22 Oct 2002 08:43:58 +1000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-103950-2002.10.21-23.39.27--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> > > and what if you need to talk in 3 different directions at the
> > > same time?
> >
> > You use the mesh network...
> >
>    Don't you still have to consider the hidden transmitter effect?

The interesting thing here is as you increase the number of nodes and reduce
their range, the hidden transmitter effect becomes less important.  I've
read a couple of research papers on the topic, and the end result of a high
density mesh is improved throughput.

Yes, there are going to be collisions, but only between a limited number of
nodes for a given packet.  I was also under the impression that 802.11b,
even in iBSS (peer-peer - ad-hoc is obsolete) mode takes some steps to
minimise collisions and can actually have the reverse probem where a node
thinks it might collide with another transmitter, so it doesn't transmit.

In any case, it makes sense to me to join forces with the wireless
experimenters and try building some real world mesh networks.  Joining up
with the unlicenced people and running it as part 15 (sic - I hate regional
centric terminology) for the first cut keeps cost down and increases the
potential node density.

We can branch off at any time as we see fit, taking into account the results
of early experiments.

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## 125. [ss] Re: ss digest: October 20, 2002

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Tue, 22 Oct 2002 19:12:40 +0100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-104033-2002.10.22-13.56.17--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> 1. Getting on the 3 GHz ham band with 802.11 stuff is
> easy. Get a Minicircuits catalog,

Yes I could do that, no bother. LO, 2 mixers,

and some good filtering. And a good PA while
we're there.

Would I get more QSOs with 802.11 on 3.4GHz? :^)
More hits on my webserver?

If the 2.4GHz band gets full up, I can't find
a channel for my station, and there's too much
QRM then perhaps I'll go there.

Until then 2.4G seems just fine.

I'd recommend the Nat Semi synth chips, very easy
to use and they just work, no trouble. They'll
run 2.5GHz LO's directly. eg. LMX2370 etc, I think
there are faster ones now.

And the Maxim mixers and LNA chips are good.
They're tame and do exactly what they say in the
book.

Avoid RFMD's chips, all the RFMD chips I've used
had oscillation greif that took a 13GHz network
analyser to sort out. You won't have a 13GHz
analyser. RFMD don't either :-)

Note that 2.4GHz PA chips have an exposed paddle;
to ground them properly requires a PTH PCB and
hot-gas rework equipment, and even then expect
to loose a few.

HP (Agilent) PIN diodes are good 2.4GHz antenna
switches, eg. HSMP-389V; there are app notes that
describe. There are also GaAsfet switch chips.
In both cases the loss is 0.8dB-ish, but diodes
are cheap & robust. Seen plenty of dead LNAs and
PAs but never a dead PIN diode :-)

Ceramic filters typically have a loss of 2dB,
so expect to loose 3dB of your Tx power between
the PA and the antenna hole. Yep, and 3dB of Rx
power coming the other way too. A whole 6dB of
link budget disappears here in 802.11b land.

If you get to the giddy heights of the 5W level
the tool of the trade is cavity diplexers; you
want 802.11 with split-frequencies to do that.
And most of that wasted 6dB could be yours.

Ant M1FDE

---
You are currently subscribed to ss as: lyris.ss@tapr.org
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## 126. [ss] Re: ss digest: October 20, 2002

From: "Jason A. Beens" <jbeens@sensetechnologies.com>
Date: Tue, 22 Oct 2002 13:58:09 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-104049-2002.10.22-14.36.39--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Has anyone tried the Silicon Labs ( http://www.silabs.com/ )offerings
for PLL/VCO like the SI413x?  They look very promising for making a
compact low power up/down converter.

Just curious...
Jason Beens
KB0CDN

-----Original Message-----
From: bounce-ss-22185@lists.tapr.org

[mailto:bounce-ss-22185@lists.tapr.org]On Behalf Of Anthony N Martin
Sent: Tuesday, October 22, 2002 1:13 PM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] Re: ss digest: October 20, 2002

> 1. Getting on the 3 GHz ham band with 802.11 stuff is
> easy. Get a Minicircuits catalog,

Yes I could do that, no bother. LO, 2 mixers,
and some good filtering. And a good PA while
we're there.

Would I get more QSOs with 802.11 on 3.4GHz? :^)
More hits on my webserver?

If the 2.4GHz band gets full up, I can't find
a channel for my station, and there's too much
QRM then perhaps I'll go there.

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to use and they just work, no trouble. They'll
run 2.5GHz LO's directly. eg. LMX2370 etc, I think
there are faster ones now.

And the Maxim mixers and LNA chips are good.
They're tame and do exactly what they say in the
book.

Avoid RFMD's chips, all the RFMD chips I've used
had oscillation greif that took a 13GHz network
analyser to sort out. You won't have a 13GHz
analyser. RFMD don't either :-)

Note that 2.4GHz PA chips have an exposed paddle;
to ground them properly requires a PTH PCB and
hot-gas rework equipment, and even then expect
to loose a few.

HP (Agilent) PIN diodes are good 2.4GHz antenna
switches, eg. HSMP-389V; there are app notes that
describe. There are also GaAsfet switch chips.
In both cases the loss is 0.8dB-ish, but diodes
are cheap & robust. Seen plenty of dead LNAs and
PAs but never a dead PIN diode :-)

Ceramic filters typically have a loss of 2dB,
so expect to loose 3dB of your Tx power between
the PA and the antenna hole. Yep, and 3dB of Rx
power coming the other way too. A whole 6dB of
link budget disappears here in 802.11b land.

If you get to the giddy heights of the 5W level
the tool of the trade is cavity diplexers; you
want 802.11 with split-frequencies to do that.
And most of that wasted 6dB could be yours.

Ant M1FDE

---
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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
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## 127. [ss] Transverters for 2.4GHz

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Tue, 22 Oct 2002 20:23:29 +0100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-104057-2002.10.22-15.07.58--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Some basic analysis on the practicalities of
transverters using 2.4GHz WLAN as IF.

You cannot transvert 2.4GHz to 1.2GHz practically.
The LO falls in-band to the RF, and the 2nd harmonic
of LO falls in-band to the IF, total non-starter.
Ok, high-side 3725MHz LO is an option, but here
in the upconverter 2*IF-LO comes in-band at low
RF frequencies, one very big Tx sprog that can't
be fixed. It's a dead duck. The bird won't fly.

Transverting 2.4GHz to 5.6GHz has a problem in the
upconversion where LO*3-IF*4 falls inband to RF.
The level of this mixing product will be ~-30dBc
and unacceptable. Aiming high with an LO around
3.4GHz seems workable, as the mixing product
goes out of the way. We share a CEPT ISM band
here- Deja vu?

Transverting 2.4GHz to 3.4GHz you have the product
LO*6-IF in the upconversion which is likely to be
marginally acceptable. At the bottom of the band
it's 200MHz away from the wanted, so it defines
a non-trivial filtering problem. Choice of mixer
may help, but the signal levels won't. Prudent
to test some mixers before going any further.
Alternatively, a high-side 5875MHz LO is an
excellent choice, although a lot harder to
generate, and needs a faster mixer, it makes the
filters a lot easier.

Transverting 2.4GHz to 10GHz gives a product
LO*2-IF*2, again, quite a high level unwanted.
It's 400MHz above when tuned to the bottom of the
band, but only 100MHz away tuned to the top. A
filtering problem I'd not even attempt. If you
aimed high in the 10GHz band using a 7.9 to 8.0GHz
LO, it appears you can win and there are no
problematic unwanted products and the filtering
is relatively relaxed.

... Don't assume all frequency conversions are
practical ones. Making radios work involves
judicious choices of IF & LO frequencies. It's
called "receiver architecture". In a transverter
you have fewer variables and less freedom.

I'm using the UK amateur allocations so any
resemblance to international conformity is
coincidental. And band plans, say what?

FYI UK allocations
1240-1325MHz, 3400-3475MHz,
5650-5850MHz, 10-10.5GHz

Ant M1FDE

---
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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 128. Your confirmation is needed (ok 6751)

From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Wed, 23 Oct 2002 05:26:45 -0500
To: lyris.ss@tapr.org

Message-ID: <LYR6751-104157-2002.10.23-05.26.45--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

```
Your email address 'lyris.ss@tapr.org' has been submitted to be
unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be
unsubscribed.

To confirm that you do want to unsubscribe, reply to this message so that
the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to
unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the
mailing list.

---

Return-Path: <@guaweb.com:jzlin@bp-it.nl>
Received: from guaweb.com ([211.154.38.72]) by lists.tapr.org with SMTP (Lyris Server version 3.0); Wed,
 23 Oct 2002 05:26:41 -0500
Received: from pat.ccc.nottingham.ac.uk([195.205.230.210]) by guaweb.com(JetMail 2.5.3.0)
        with SMTP id jm5e3db6d84c; Wed, 23 Oct 2002 09:36:57 -0000
Message-ID: <00004820207c$000026da$000032fe@botext2.bot.or.th>
To: ss-request
From: "Service Center" <jzlin@bp-it.nl>
Subject:
Date: Wed, 23 Oct 2002 02:44:02 -1900
MIME-Version: 1.0
Content-Type: text/html;
        charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <@guaweb.com:jzlin@bp-it.nl>
Received: from guaweb.com ([211.154.38.72]) by lists.tapr.org with SMTP (Lyris Server version 3.0); Wed,
 23 Oct 2002 05:26:41 -0500
Received: from pat.ccc.nottingham.ac.uk([195.205.230.210]) by guaweb.com(JetMail 2.5.3.0)
        with SMTP id jm5e3db6d84c; Wed, 23 Oct 2002 09:36:57 -0000
Message-ID: <00004820207c$000026da$000032fe@botext2.bot.or.th>
To: <jzlin@bp-it.nl>
From: "Service Center" <jzlin@bp-it.nl>
Subject: Want an Investment Backed By Real Property?
Date: Wed, 23 Oct 2002 02:44:02 -1900
MIME-Version: 1.0
Content-Type: text/html;
        charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable

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  Tax Certificates</B></font><br>
  <font color=3D#ff0000 size=3D4><b>PAY YOU </font></b><font color=3D#0033=
00 size=3D4><b>Between</font>
  <font color=3D#ff0000 size=3D4>15%-300%</font></b>
  <font color=3D#003300 size=3D4><B><U>GUARANTEED!</U>
  </b></font></center></tr></td>
<P>
```

```
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<LI>Find Real Estate For Pennies On The Dollar
<LI>Receive Flexible Options For Your Money
<LI>Get Away From The Market Fluctuations
<LI>Receive a Collateralized Investment Opportunity
<LI>Get a Guaranteed Rate of Return On Your Investment</LI>
</tr></td></font></b></P>
<P>
  <TR>
    <TD align=3D"center"><FONT color=3D#003300 size=3D2>*(The numbers used=
 below are real examples. Individual <br>situations vary in all 50 states.=

   Affidavits are on file.)</font>
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ation/education
 for the government tax industry.  Discover the secrets banks have been us=
ing for over 100 years.
Enjoy security in your investment(s) with the highest guaranteed interest =
returns compared to any other investment.
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or=3D#ff0000 size=3D4><u>Insider Secrets to Investing In
Government<br> Secured Tax Certificates</u></FONT><br>
  (A $39.95 Value)</FONT></B></TR></td>
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size=3D2>*</b></FONT></FONT>
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fternoon</OPTION>
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TION value=3DBusiness_Opp>Business Opp</OPTION>
              <OPTION value=3DNew_Career>New Career</OPTION><OPTION value=3D=
All_of_the_Above>All of the Above</OPTION>
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ystem (such as:<br> Yahoo!, Hotmail etc.)
      the form above will not work.  <br>Instead of using the form, please=
 <A href="http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/3D&amp;quot;mailto:
gov.invest@virtual-biz.net?subject=3DInvestment_inquiry="
">click
      here.</A><br></td></tr>
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      <b>*You need to include your name, state, and phone number in <br>th=
e body of the message
      to receive a response.  Thank you.</td></tr></font>
<p>
  <TR>
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      size=3D1>To be removed from our list, please send an email to:<u>
      delete@virtual-biz.net</u><BR>Include the word "remove" in the subje=
ct
      line.</A></FONT></TD></TR></TBODY></TABLE></P></CENTER>
</BODY>
</HTML>
```

## 129. [ss] Re: ss digest: October 22, 2002

From: Jim Ussailis <ussailis@equinox.shaysnet.com>
Date: Wed, 23 Oct 2002 07:12:05 -0400 (EDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: ss digest recipients <ss@lists.tapr.org>
Message-ID: <LYR6751-104162-2002.10.23-06.51.00--lyris.ss#tapr.org@lists.tapr.org>

Rendered body type: text/plain

1. Am glad to see that someone else is looking at harmonic modulation mixer
products. Yes, selection of freqs is NOT a trival operation. One thing I
did learn from someone else's mistake is to beware anytime the LO and RF
are related by a power of two.

Old Watkins-Johnson catalogs did have a good theory section regarding
these products. There was also an article in RF & Microwaves in the early
'70s. Some folks call them "M by N," or "M  X  N" products.

2. The big problem I see with 2.45 is the microwave oven. Freq assignment
is 2450 +/- 50 MHz. And they don't have much in the way of freq control.
They drift.

They are also pulsed emitters, and can splatter junk over a lot of the band.

3. on building a converter. Expect 3/4 dB loss per inch if using FR-4
PCB material. Best not to use the stuff, even tho it is cheap.

Jim W1EQO

---
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## 130. [ss] Re: Transverters for 2.4GHz

From: xlpitlum <multiplx@online.dct.com>
Date: Wed, 23 Oct 2002 06:30:57 -0500 (CDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-104163-2002.10.23-07.13.53--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Some basic analysis on the practicalities of
> transverters using 2.4GHz WLAN as IF.
>
> You cannot transvert 2.4GHz to 1.2GHz practically.
> The LO falls in-band to the RF, and the 2nd harmonic
> of LO falls in-band to the IF, total non-starter.
> Ok, high-side 3725MHz LO is an option, but here
> in the upconverter 2*IF-LO comes in-band at low
> RF frequencies, one very big Tx sprog that can't
> be fixed. It's a dead duck. The bird won't fly.

> Transverting 2.4GHz to 5.6GHz has a problem in the
> upconversion where LO*3-IF*4 falls inband to RF.
> The level of this mixing product will be ~-30dBc
> and unacceptable. Aiming high with an LO around
> 3.4GHz seems workable, as the mixing product
> goes out of the way. We share a CEPT ISM band
> here- Deja vu?
>
> Transverting 2.4GHz to 3.4GHz you have the product
> LO*6-IF in the upconversion which is likely to be
> marginally acceptable. At the bottom of the band
> it's 200MHz away from the wanted, so it defines
> a non-trivial filtering problem. Choice of mixer
> may help, but the signal levels won't. Prudent
> to test some mixers before going any further.
> Alternatively, a high-side 5875MHz LO is an
> excellent choice, although a lot harder to
> generate, and needs a faster mixer, it makes the
> filters a lot easier.
>
> Transverting 2.4GHz to 10GHz gives a product
> LO*2-IF*2, again, quite a high level unwanted.
> It's 400MHz above when tuned to the bottom of the
> band, but only 100MHz away tuned to the top. A
> filtering problem I'd not even attempt. If you
> aimed high in the 10GHz band using a 7.9 to 8.0GHz
> LO, it appears you can win and there are no
> problematic unwanted products and the filtering
> is relatively relaxed.
>
>
> ... Don't assume all frequency conversions are
> practical ones. Making radios work involves
> judicious choices of IF & LO frequencies. It's
> called "receiver architecture". In a transverter
> you have fewer variables and less freedom.

>
> I'm using the UK amateur allocations so any
> resemblance to international conformity is
> coincidental. And band plans, say what?
>
> FYI UK allocations
> 1240-1325MHz, 3400-3475MHz,
> 5650-5850MHz, 10-10.5GHz
>

  It's all moot considering Teletronics already sells up/down converters
  for the 900 MHz, 3.4 GHz and 5.8 GHz bands:

    www.teletronics.com/tii/products/udc/udc_table.html

  so it is possible.  It may be better to utilize the on-board 280 MHz IF
  that is used in the PRISM chipsets.  There is also the possibility of
  changing the 2122-2203 MHz PRISM LO to something different, and adding our
  own TX/RX sections.


---
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## 131. [ss] Re: ss digest: October 20, 2002

From: xlpitlum <multiplx@online.dct.com>
Date: Wed, 23 Oct 2002 06:42:20 -0500 (CDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-104164-2002.10.23-07.25.15--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Avoid RFMD's chips, all the RFMD chips I've used
> had oscillation greif that took a 13GHz network
> analyser to sort out. You won't have a 13GHz
> analyser. RFMD don't either :-)

  You can purchase complete evaluation kit PCBs if
  you're having problems.

> HP (Agilent) PIN diodes are good 2.4GHz antenna
> switches, eg. HSMP-389V; there are app notes that
> describe. There are also GaAsfet switch chips.
> In both cases the loss is 0.8dB-ish, but diodes
> are cheap & robust. Seen plenty of dead LNAs and
> PAs but never a dead PIN diode :-)

  Here some more info:

  Application of PIN diodes
  http://www.qsl.net/n9zia/wireless/pdf/an922.pdf

  Fast switching PIN diodes
  http://www.qsl.net/n9zia/wireless/pdf/an929.pdf

  Applications for the HSMP-3890 surface mount switching PIN diode
  http://www.qsl.net/n9zia/wireless/pdf/An1072.pdf

>
> Ceramic filters typically have a loss of 2dB,
> so expect to loose 3dB of your Tx power between
> the PA and the antenna hole. Yep, and 3dB of Rx

  Or use a 0.5 dB IL low pass filter after the PA and save
  the bandpass for the RX input.


  On another note, I was sent a close-up picture of a YDI 2440
  2.4 GHz bi-directional amplifier, we should try to pick it apart:

    http://www.qsl.net/n9zia/wireless/pics/ydi2440.jpg

  They scratch the numbers off all the ICs.  The PA is a Pacific
  Monolithics PM2117.

---
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## 132. [ss] Re: ss digest: October 20, 2002

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Thu, 24 Oct 2002 15:47:16 +0100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-104303-2002.10.24-10.35.46--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> > Avoid RFMD's chips, all the RFMD chips I've used
> > had oscillation greif that took a 13GHz network
> > analyser to sort out. You won't have a 13GHz
> > analyser. RFMD don't either :-)

>  You can purchase complete evaluation kit PCBs if
>  you're having problems.

They give me the evaluation PCBs.

It doesn't matter what board you put the chip on.

Yes they work fine between 50 ohm terminations.

If it's got positive reflection loss at 11GHz then
it oscillates when connected to filters or the
matching network of the previous stage.

Hard to fix at board level, should be fixed at
chip level. They should at least tell you about it.
But RFMD don't know as they don't characterise
over 6GHz.

I don't like chips with nasty suprises.


In some cases the evaluation PCBs don't match the
advice given in the datasheet.  Don't
assume chip makers are infalliable, always know
what they're doing, and always do a good job.
They cut corners like everyone else does!
Frequently we've received s-paramater data from
companies that makes no sense at all.

Datasheet circuits and evaluation circuits are
intended for test and characterisation. Some
engineers think that by cloning the datasheet
circuit, they avoid risk and their ass is
covered. Not so. Circuits need a proper rethink
to make them suitable for reproducible
manufacture and for a specific application.


You might remember a period where motorola
transistor datasheets had layouts of test
jigs with 5 huge tweaker capacitors in them.
This resulted in an entire generation of PA
amplifiers tweaked up with big capacitors,
as if there was no other way to do it. These
days we'd design the right multistage matching
network with much lower component sensitivity
using fixed components, PCB tracks, and
s-paramater data.

RFMD are turning out new devices so fast their
databook is now about 3 inches thick of nothing
but RF chips.


I've been through the .jpg of the YDI2440.
I've scanned a few PCBs on a flatbed and they
come out very well :-) Tiny 0402 components
in VCOs and bondwires inside SAW filters can
scanned at 1200 dpi and blown up, almost like
a microscope. Quite a neat trick.

No suprises in the circuit though.

U2 & U5 are GaAs switches. U5 is just a
National dual op-amp, probably a fairly
quick one, doing tx/rx switching.

D1 is the radio Tx power detector, probably
a common Agilent low-capacitance dual schottky
or similar.

U4 is the LNA. Similar to RF2442 or RF2324 or
RF2304 (depending on gain & supply) but it
doesn't match the pinouts of any RFMD amp chip.

FL1 is a standard murata ceramic filter for
2.4GHz.

C34-35-36 and the high-impedance tracks between
form an LPF on the PA output.

Presumably it's a relatively thin 2-sided PCB
with a ground plane on the back. It looks like
it must have a few wire links on the other side.

How much do they sell these for? More than a
WLAN card? What do they use to feed bias up
the cable from the radio?

It's instructive studying other designs. But
I don't see much point cloning them. This was
designed in Feb 2000. 2.5 years later we can
always do better.

It doesn't help adding much Rx gain before a WLAN
card as there is little dynamic range in the front
end and it'll saturate rather easily. Typically
it has 30dBs of gain before any AGC-controlled
stages. If you're going to put one on a mast
rather than in an office I suppose you can afford
to wreck any co-site performance they had.

You have to remember WLAN cards are designed
to a cost and a purpose; they don't have
performance radio specifications. In most cases
their inadequacies are masked by the nature of
802.11 protocols. You're not expected to have 2
or 3 competing WLANS in the same space. They can
also radiate quite high levels of spurious
emissions all over the spectrum; this is
permitted as the emissions are spread and the
*power density* is low. But the LNA of an
adjacent Rx on another band won't care about
power density when it saturates. These things
weren't meant for crowded commercial or ham
antenna towers.

Ant M1FDE

---
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## 133. [ss] Re: ss digest: October 20, 2002

From: xlpitlum <multiplx@online.dct.com>
Date: Fri, 25 Oct 2002 03:47:55 -0500 (CDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-104385-2002.10.25-04.30.54--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> How much do they sell these for? More than a
> WLAN card? What do they use to feed bias up
> the cable from the radio?

  http://www.ydi.com/products/amp2440-amplifier.php?oem=yes
  for more info on that amplifier.

>
> It's instructive studying other designs. But
> I don't see much point cloning them. This was
> designed in Feb 2000. 2.5 years later we can

> always do better.

  That's the point, we should be able to make these for around $50 today.

---
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## 134. [ss] Re: High speed networks...

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Fri, 25 Oct 2002 05:07:37 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-104387-2002.10.25-05.50.37--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Brett & others,
While I hate these touchy political type of messages sometime you have to
say something.

>But, I have not seen much about how an amateur high speed
>network would be used. In many ways, it is a solution looking for a problem.

I'd use it and set it up like the internal network at work.  I'd run my own
ham 802.11b web server, and post all kinds of stuff that interests me.
Hopefully expand the AMPRNet" concept.  While also utilizing it to
seamlessly bridge wired internal government networks in (simulated)
emergency situations, when land lines are down.  I wouldn't really use it
for internet access, but I think having that tied into it wouldn't be a bad
idea.  For example: One could use it to get internet access to remote voice
repeater sites for IRLP.  (Many repeater sites don't have telephone hookups)

>Personally, would I use a high speed amateur network of internet access?
No, to much >content restrictions.

Personally these so called "content restrictions" are a myth. See 97.101a
"each amateur station must be operated in accordance with good amateur
practice."  That's the only section/phrase talking about content that I know
of.  Unless your a business, or porno freak there shouldn't be any real
problems assuming your a ham and you have an amateur interest in this Part
97 wireless concept.  The (keep it) Part 15 look at this makes me think
their either;
1)not a ham (or not interested)
2)are a ham but would like to capitalize on this
3)an extremely paranoid old school of thought ham.

If all someone wants to do is distribute internet and not attempt to build a
separate ham VPN (AMPRNet) network, yes keep it Part 15.  If you want to
experiment with other hams by trying to form a network or link using this
technology, that's ham radio and should be Part 97.

>speed of 128kbps to 512kbps. Also, I am not aware of anything that prevents
part 97 >traffic from be carried over part 15 devices (Notice... I did not
say part 97 devices >connecting to part 15 devices). Why not use a part 15
wireless network to connect to >shelters to a near by communications center
to handle the long haul?
>

I guess what I see here is.. yes now there are many vehicles to communicate.
Cellphones, the internet, paging services.. other licensed radio services;
GMRS, Business radio's, unlicensed; FRS, MURS, Part 15 WLAN.  What your
interest in ham radio is (if any) determines its possible replacements.
Many of the things we do (public service) as hams can be done through other
means.  As you point out our discussions/communications can also be done
through other means.

Thats my 2 cents worth..

Our basis and purpose:
Providing Emergency communications
To advance the radio art
Encouraging experimentation, advancing communication & technical skills
Training/expanding the reservoir of operators/technicians and electronics
Extending goodwill

---
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## 135. [ss] Re: ss digest: October 20, 2002

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Fri, 25 Oct 2002 12:20:33 +0100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-104395-2002.10.25-07.16.44--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> http://www.ydi.com/products/amp2440-amplifier.php?oem=yes
> for more info on that amplifier.

You could buy 4 WLAN cards for the price of one of those!

If you've got repeater sites to put them on that's a better
way to get the range.

I'm skeptical of their claims of "use up to 300ft
inexpensive feeder cable". In fact I think that's
complete bunk. Even expensive heliax would be too
much loss. 300ft of waveguide perhaps.

There are no ALC circuits to fix output power with wide
variations in input level from different feeder lengths.
Could easily be done...

Are tx/rx LEDs any use with 802.11 speeds?

Ant M1FDE

---
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## 136. [ss] Re: High speed networks...

From: "Bret A. Boggs" <bboggs@ameritech.net>
Date: Fri, 25 Oct 2002 08:22:16 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-104400-2002.10.25-08.09.25--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thanks Steve and everyone else! I've found your comments to be very
educational and enlighting. It is nice to be involved with a group that
can debate a subject without resorting to insults and name calling!

My own personal experince is this, I am on the techincal committee of
amateur repeater system that has one main transmitter site, four receive
sites, and use Part 15 T1 radios to link the receive sites to the
transmitter site. The longest link is about 10 miles. Professionally,
I design wireless networks for the transportation industry. From slow
speed serial links from traffic sensors to high speed links that carry
video.

While 802.11 has some very nice capablities, I do not believe we should
limit our selfs to just 802.11. For example, if speed is not an issue,
a fairly cheap and effective solution is a 128k serial radio with a
single board computer (or your home computer) running PPP back to the
main server.

Bret - WB8WKC

---
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## 137. [ss] Re: High speed networks...

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Fri, 25 Oct 2002 19:37:23 +0100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-104439-2002.10.25-14.21.13--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Brett & others,
While I hate these touchy political type of messages sometime you have to
say something.

The things you can do with WLAN isn't
political - it's creative ideas.

>But, I have not seen much about how an amateur high speed
>network would be used. In many ways, it is a solution looking for a
problem.

Mirrors of websites ham radio people use can be  useful
content. They can be kept current using overnight bandwidth
on a dialup, and provide immediate 10Mb/s access.

My server already has 250Mb of the entire cygwin
release on it. It would normally take many hours to
install a subset off the net, and quite a chore to keep
up-to-date, but it takes minutes from a local mirror. It's
something I use so that's why it's there...

The ATV people are looking for digital ATV alternatives.
Some kind of high-speed data must underly that. With
an IP network almost anyone with a PC can do digital
ATV.

We already have a club CD-ROM stuffed with archive
material, photos, publicity material, newsletters, training
slides, posters, software, websites, ... Updated copies
can be picked up at most club events. Now wouldn't that
be easier to maintain on a WLAN? The 700Mb CD-ROM
is already nearly full but WLAN doesn't have such limits.

We can't stick much video on a CD, although we do
record club events, presentations, talks etc. Anyone
for a streaming media server?

You can share your software using X-windows and VNC,
and get expert help fixing your PC problems with remote
admin.

If schoolkids get the idea you can use WLAN for multiuser
gaming & videochat, expect WLAN to explode overnight.
Has it happened at all in your area?

Problem is, the amateur radio people aren't very creative
with datacomms & the net, they just read websites, get
the mail and catch viruses.

Very few have seen what large companies do with LANs -
they have intranet websites, software you use remotely,
shared databases etc. All data is backed up over the
network - you never keep files on your local computer
as there's a more secure one somewhere else for that.
You can wander round and see who's logged on where
on the other side of europe, and you can print your
files anywhere. I can login to any PC anywhere and see
my own files and desktop. I often chat with other engineers
on other sites on a local news-server.

The way we use the internet is still very much limited
by datarates at the moment, even though people are
still wondering what use ADSL is for.

Ant

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 138. [ss] Re: High speed networks...

From: wchast@utilpart.com
Date: Fri, 25 Oct 2002 19:59:38 -0400

To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-104468-2002.10.25-19.43.19--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> -----Original Message-----
> From: Anthony N Martin [mailto:Anthony.N.Martin@marconi.com]
> Sent: Friday, October 25, 2002 02:37 PM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: High speed networks...
>
>
>
> Brett & others,
> While I hate these touchy political type of messages sometime
> you have to
> say something.
>
> The things you can do with WLAN isn't
> political - it's creative ideas.

As Ant has pointed out once you convert information into a digital data stream all you need is the bandwidth to move it. At that point it does not matter what it is, it can be data as in the most basic keyboard to keyboard, machine to machine, or it can be digital voice, video or whatever, the key is converting it to a bit stream and then sending along with all the rest of the stuff we like to send back and forth.

I think that the part 15 ops have caught that idea better than most hams which is a a shame but, there are still people who say CW MUST form part of the amateur radio exam... There are those who still want to run AM in precious HF spectrum, and there are those who keep a repeater on a frequency pair, it probably uses more air time ID'ng than actually being used, and the technology (FM) is 30-40 years old. It is time to wake up and realize that one 25Khz channel can handle a number of TDMA channels of voice or data (I think that Nextel using IDEN squeezes 6 or 8 voice channels in dispatch mode) and a whole number of groups of amateurs could share the same wonderful site if we could just start moving forward again and get off our duffers otherwise I fear someone is going to come along and wonder why all this spectrum is being used by out of date technology, and at that it is actually in very little use (just put a spec analyzer on your favourite VHF/UHF/ Microwave band and see how much real use there is).

I suppose that I am preaching to the choir here but we have got to do something and this discussion is going that direction. Most repeater and other old tech groups are going no where.

Hey has anyone tried Speakfreely using it's high compression codec, with some low spead packet radio devices? I was playing around using some 2k4 PacComm TNC's and passed acceptable voice at that data rate between two computers using those two TNC's and a couple of handhelds. I just did it for grins, but if it will work "reasonably well" at that data rate what about 9k6 (I will give that a try in the next few days) or higher. Using 802.11 devices now you have a nice voice link between repeaters. It can only get better, keep the ideas coming folks.

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## 139. [ss] Re: High speed networks...

From: Walt DuBose <dubose@texas.net>
Date: Fri, 25 Oct 2002 22:37:41 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-104471-2002.10.25-23.20.26--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Anthony N Martin wrote:
<snip>
>
> You can share your software using X-windows and VNC,
> and get expert help fixing your PC problems with remote
> admin.
>
Its not very secure; but, I would love to Xhost from a little
PC into a larger server that had HF digital voice, V/UHF linking
to other repeaters.

Streaming video between disaster sites and and EOC...
And I could go on and on.

> If schoolkids get the idea you can use WLAN for multiuser
> gaming & videochat, expect WLAN to explode overnight.
> Has it happened at all in your area?

Oh yes, you could REALLY get thier interest...much better than
letting them "play" with a couple of 2M talkies.

>
> Problem is, the amateur radio people aren't very creative
> with datacomms & the net, they just read websites, get
> the mail and catch viruses.

You've noticed that also I see.

>
> Very few have seen what large companies do with LANs -
> they have intranet websites, software you use remotely,
> shared databases etc. All data is backed up over the
> network - you never keep files on your local computer
> as there's a more secure one somewhere else for that.
> You can wander round and see who's logged on where
> on the other side of europe, and you can print your
> files anywhere. I can login to any PC anywhere and see
> my own files and desktop. I often chat with other engineers
> on other sites on a local news-server.
>

Video teleconferencing between hams WOW!!!

Oh did I fail to mention one heck of a "national message relaying
system".

Walt/K5YFW

---
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## 140. [ss] Re: ss digest: October 20, 2002

From: xlpitlum <multiplx@online.dct.com>
Date: Sat, 26 Oct 2002 04:08:25 -0500 (CDT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-104493-2002.10.26-04.51.33--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> You could buy 4 WLAN cards for the price of one of those!
>
> If you've got repeater sites to put them on that's a better
> way to get the range.

  The cost of 4 repeater sites would be 10 times the cost of the
  amplifier.

>
> I'm skeptical of their claims of "use up to 300ft
> inexpensive feeder cable". In fact I think that's

> complete bunk. Even expensive heliax would be too
> much loss. 300ft of waveguide perhaps.

  There are clearly some marketing "lies" in their descriptions.

>
> There are no ALC circuits to fix output power with wide
> variations in input level from different feeder lengths.
> Could easily be done...

  Ther higher power amplifiers do have power control circuitry.
  So I'm told...

>
> Are tx/rx LEDs any use with 802.11 speeds?

  No, they are current sensed.  It's mostly to check the status of the
  amplifier.

  Here's an internal picture of the DC injector they use:

  http://www.qsl.net/n9zia/wireless/pics/ydi-amp-4.jpg

---
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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 141. [ss] RE: ARRL 802.11b Standard Development Support Request

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Sun, 27 Oct 2002 08:43:59 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-104565-2002.10.26-17.27.39--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

G'Day All...

I am now going through my old emails since I was in Hawaii working on
the IronMan world championship when this came through...

My first response when I saw this message come though was 'Has the ARRL
gone completely nuts?'... After all the first comment I saw was comments
on the 'ARRL 802.11 Standard', where the protocol is modified to suit
ham radio.

>Hope that answers your question of why the new standard is called ARRL
802.11.

I have not read anything that says how the standard 802.11b will be
modified. I have not read how the underlying protocol with various
timers is being changed. All that the ARRL is doing is setting up some
operating practices. This is not modifying the standard, and if I were
the IEEE, I would be pissed. It would be like AT&T setting up an access
point, with a specific naming convention of access points and calling it
'AT&T 802.11'.

If the 802.11 standard is changed for ham radio with things like power
control, center frequency, spread etc. then things are worse. The reason
why the 802.11 is likely to succeed where the TAPR SS Radio did not is
the cost and availability of equipment. When you start talking about
changing frequencies and underlying protocols you immediately reduce the
availability of hardware and of platforms. What happens when the drivers
are only available on Debian, and I use XP?

More importantly, what happens when the FCC comes to their senses and
realises that more control of 802.11b is needed, and starts to put
controls in hardware rather than software? Where will hams be left. Once
hams need to modify hardware or use different drivers we are all lost

I believe the name would be OK as being "ARRL 802.11" since 802.11 is
not copyright-able. Intel could not win that one in the 386 or 486, so I
doubt that the IEEE will win that one. That being said I believe this
term is a very bad move. It basically 'AMERICANIZES' the 802.11
operating practices used by hams. Bad move. If the ARRL wants to put
their name on it, how about

        'ARRL 802.11 Operating Practices'
Or
        'Amateur 802.11'

Anyway, enough of my rambling...

Darryl VK2TDS

---
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## 142. [ss] Re: High speed networks...

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Mon, 28 Oct 2002 08:56:22 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-104617-2002.10.27-16.39.31--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> As Ant has pointed out once you convert information into a
> digital data stream all you need is the bandwidth to move it.
> At that point it does not matter what it is, it can be data
> as in the most basic keyboard to keyboard, machine to machine,
> or it can be digital voice, video or whatever, the key is
> converting it to a bit stream and then sending along with all
> the rest of the stuff we like to send back and forth.

Agreed.  Data is so easy to move around, once in digital form.  You just need the required bandwidth.

> I think that the part 15 ops have caught that idea better than
> most hams which is a a shame but, there are still people who

All the more reason to get involved with these groups and seek out the ones who may have interest in ham radio, if only:

1.  They knew such a thing as ham radio existed (yes, most people these days don't even know about the hobby!)
2.  They knew we like to play with new technology too, not just live in the past.

> Hey has anyone tried Speakfreely using it's high compression
> codec, with some low spead packet radio devices? I was playing
> around using some 2k4 PacComm TNC's and passed acceptable voice
> at that data rate between two computers using those two TNC's
> and a couple of handhelds. I just did it for grins, but if it

That's not doing bad.  I'm a bit surprised, actually, because the codec (LPC-10) uses 2.4k, and then you have UDP/IP overheads on top of that, then you're running (presumably) over a half duplex radio channel.

> will work "reasonably well" at that data rate what about 9k6
> (I will give that a try in the next few days) or higher. Using

At 9k6, you should be able to keep a stream going, provided you maintain some reasonably "deep" jitter buffering (which Speak Freely has internally).

> 802.11 devices now you have a nice voice link between repeaters.
> It can only get better, keep the ideas coming folks.

802.11b would also allow compressed video feeds as well.  Anyone for ATV linking (albeit at reduced quality)?  All sorts of datacasting becomes possible as well.

---
Outgoing mail has been scanned for Viruses
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.406 / Virus Database: 229 - Release Date: 21/10/2002

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## 143. [ss] Re: High speed networks...

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Mon, 28 Oct 2002 09:07:08 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-104624-2002.10.27-18.35.58--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Its not very secure; but, I would love to Xhost from a little
> PC into a larger server that had HF digital voice, V/UHF linking
> to other repeaters.

Neat. This sort of stuff is always fun...

> > If schoolkids get the idea you can use WLAN for multiuser
> > gaming & videochat, expect WLAN to explode overnight.
> > Has it happened at all in your area?
>
> Oh yes, you could REALLY get thier interest...much better than
> letting them "play" with a couple of 2M talkies.

And the interest of many geeks as well. The younger generation is getting quite "into" wireless LANs, now that groups have sprung up. At 34, I'm in the minority of "old farts" with any involvement. The dominant age range is 15-25 - Hmm, the exact age range that used to get into things like shortwave listening and ham radio many years ago...
>
> Video teleconferencing between hams WOW!!!

Count me in! Just name the protocol, let me know what modules and drivers I need to compile, what frequency and I'll be there. :)
>
> Oh did I fail to mention one heck of a "national message relaying
> system".

Could have fun with a DNS infrastructure and a heap of servers running MTAs (for email) or something like Jabber servers (for open source instant messaging between hams).

---
Outgoing mail has been scanned for Viruses
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.406 / Virus Database: 229 - Release Date: 21/10/2002

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## 144. [ss] Re: High speed networks...

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Mon, 28 Oct 2002 18:43:28 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-104645-2002.10.28-02.27.11--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

For those that missed my talk at the DCC I will sumerise

802.11 has something for everyone... Radio people and computer people.

Part 15 people can use hams to help them with their networks, since we know not to crimp N connectors with Plyers. These people are interested in radio so having a ham radio person there is good publicity

for our hobby.

        The microwave people can help the part 15 people with cheap 2.4
GHz antennas that resonate... Most don't - and they can make money to
support their hobby at the same time. US$100 for an 3-8 dbi Onmi is not
expensive in this world :-)

        802.11 is a great technology for links out of the box. Hams can
build networks on top of it... RSPF could be ported to it creating a
mesh network. We can run proximity APRS; Digital Voice; Webcam ATV etc.
The sky is the limit.

        Ethernet up the tower is a viable option - So is USB. A USB
access at the focus of a dish is a wonderful thing

        802.11 is breakable in every area... Including range, power,
packet sizes etc. Circuit diagrams are often available too.

        The Orielly 802.11 book is required reading

        802.11 is copied from AX.25. SSID is a ham radio term!!!!!!!

Darryl

---------
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au



---
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## 145. [ss] RE: ARRL 802.11b Standard Development Support Request

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Mon, 28 Oct 2002 19:18:03 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-104695-2002.10.28-14.02.08--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

It would be nice if we had a standard specification
of the capabilities and configurability demanded by
amateurs from 802.11 devices. We could then
assess manufacturers products against these
bullet points and publish charts and league tables.

That would be a very useful thing indeed.

We'd know which products to buy which not to
buy. And which applications we should buy a
better product for, and when a cheaper product
would meet our goals.

If the standard thus established were sufficiently
*international* (remembering that most of these
things are *not* made in the USA, and many simply
export the feature-set of a chipset from Taiwan) some
suppliers may take notice.

Saying that a device is "802.11 compatible" does not
define the level of features offered. You do not know which
modes it supports (IBSS,  AP-client, AP-host, bridging)
or which modes it can support simultaneously. Neither
do you know the level of control over the protocol that,
in theory, should be available to you.

If you want an AP that supports bridging to 4 networks
simultaneously, with router and RIP support, which is
the minimum that you need for building meshes with
802.11, we should assert that as some level in our
spec.

To debug WLANS you need to do 802.11 packet sniffing
and analysis-  seems to be trivial with 'ethereal' and a
card in a desktop,  but an AP up a mast- can we do that?

I've previously made comments that suggested that

802.11 was unable to address the "hidden station"
problem, guaranteed if clients access a node with
directional antennas. I now have an excellent text on
the standard, and this is incorrect. As it stands it does a
better job than AX-25 and you can adjust the CTS and
FRAG values to make it better. More importantly, there
is a feature that enables an AP to take responsibility
for assigning contention-free periods to clients; it is the
PCF (point coordination function) as opposed to the
usual DCF (distributed coordination function). This
feature is not mandatory and may not be widely
supported in products (firmware/drivers), but it is a
feature amateur APs *must have*. Clients must also
support the feature otherwise they won't fully
participate in PCF-polls.

It would be very helpful to know which products
implement the PCF and to encourage support for PCF
from suppliers and driver-writers. Lobbying the 802.11
committees to make it mandatory in future revisions
might also be an option.

I would like to see national radio societies take a
position on standards committees (like 802.11)
which would enable them to assert the need for
features at this level. To do this they would need
to find technically competent volunteers and fund
their participation. If we have deployed experimental
networks and we can test proposed enhancements
to the standard then we have clout, and we could
probably do a lot of good.

My search for "ARRL 802.11" found no documents;
no such thing exists, does it?

Ant M1FDE

---
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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 146. [ss] Re: Darryl's talk at the DCC

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Mon, 28 Oct 2002 20:07:42 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-104705-2002.10.28-14.52.01--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> The Orielly 802.11 book is required reading

Seconded. I'm requiring myself to read every last page.

Author a Mr Matthew Gast, and edited by a ham radio man IIRC.

Ant

---
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## 147. [ss] Re: Darryl's talk at the DCC <LYR27907-104705-2002.10.28-14.52.01--rwmcgwier#comcast.net@lists.tapr.org>

From: Robert McGwier <rwmcgwier@comcast.net>
Date: Tue, 29 Oct 2002 07:28:16 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-104820-2002.10.29-07.11.33--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

http://safari.oreilly.com/?XmlId=0-596-00183-5

-----Original Message-----
From: bounce-ss-27907@lists.tapr.org
[mailto:bounce-ss-27907@lists.tapr.org]On Behalf Of Anthony N Martin
Sent: Monday, October 28, 2002 3:08 PM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] Re: Darryl's talk at the DCC

> The Orielly 802.11 book is required reading

Seconded. I'm requiring myself to read every last page.

Author a Mr Matthew Gast, and edited by a ham radio man IIRC.

Ant

---
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## 148. [ss] Re: Darryl's talk at the DCC <LYR27907-104705-2002.10.28-14.52.01--rwmcgwier#comcast.net@lists.tapr.org>

From: dubose@texas.net
Date: Tue, 29 Oct 2002 15:33:15 US/Central
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-104879-2002.10.29-16.16.38--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> http://safari.oreilly.com/?XmlId=0-596-00183-5
>
>

I'm reading it on-line now and having my wife search for a copy of it at the
Trinity univ. books store and Barns and Nobles...gotta have it. And you are
correct, read every page (except the part on WEP).

Someone on the SIG said that 802.11 was kinda like AX.25.  I poopooed that
until I started reading this book...and the fellow is right...it IS kinda like
AX.25

Walt/K5YFW

>
> -----Original Message-----
> From: bounce-ss-27907@lists.tapr.org
> [mailto:bounce-ss-27907@lists.tapr.org]On Behalf Of Anthony N Martin
> Sent: Monday, October 28, 2002 3:08 PM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: Darryl's talk at the DCC
>
>
>
>
> > The Orielly 802.11 book is required reading
>
> Seconded. I'm requiring myself to read every last page.
>
> Author a Mr Matthew Gast, and edited by a ham radio man IIRC.
>
> Ant
>

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>
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> ---
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>
>
>
>
> ---
> You are currently subscribed to ss as: dubose@texas.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>

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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 149. [ss] Re: Darryl's talk at the DCC

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Wed, 30 Oct 2002 23:19:04 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-104955-2002.10.30-07.03.40--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

G'Day All

There were a number of copies of the O'Reilly book given away at the
DCC.... Not enough really.

There are enough of the basics of AX-25 in the 802.11 spec so that
anyone who knows 802.11 will feel at home. There are a few interesting
problems that have been throught about that do not appear in AX-25

        * Fast transmit/receive times with a high bitrate network behind
it

        * Finite Speed Of Light

        * Slotting

It is almost as if someone took all the DCC papers for the last 21 years
and designed a whole system based on the collective knowledge of that
paperwork.

Todays Challenge...
-------------------

        With a standard 802.11b implementation running at
        bitrate of 11 Mbps, assuming INFINITE power, what
        is the maximum range of the system.

        If your answer equates to a single retry timeout
        then think again... Many people think that it is
        limited by the time period for an ack to be returned
        before a retry, but there are a number of
        retries possible.

        If you can answer this question and understand why
        then you understand 802.11


Darryl

---------
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au



---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 150. [ss] Re: Darryl's talk at the DCC

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Wed, 30 Oct 2002 16:19:22 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-104978-2002.10.30-11.37.43--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The 802.11 standards are available for download
free, gratis and for nothing here:

http://standards.ieee.org/getieee802/

Select the "Terms and conditons" link in the sidebar
and "accept" to get to the actual standards download
page. You should end up here:

http://standards.ieee.org/getieee802/802.11.html

Precisely why you have to do this I don't know as you
are presented with the T&Cs again when you try to
download the standard itself. (That may cause grief
using download managers.)

The complete 802.11 file set is 10.8Mb

802.11 is 6.3Mb (the main standard)
802.11b is 1.1Mb (the 11Mb/s PHY extension)
There is also a corrigendum to 802.11b at 440k.

So get it while you can. Enjoy!

Ant M1FDE

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 151. [ss] Re: Darryl's talk at the DCC

From: dubose@texas.net
Date: Wed, 30 Oct 2002 12:26:40 US/Central
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-104985-2002.10.30-13.09.53--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I printed it out last month...its 3 inches thick.

Walt/K5YFW

> The 802.11 standards are available for download
> free, gratis and for nothing here:
>
> http://standards.ieee.org/getieee802/
>
> Select the "Terms and conditons" link in the sidebar
> and "accept" to get to the actual standards download
> page. You should end up here:
>
> http://standards.ieee.org/getieee802/802.11.html
>
> Precisely why you have to do this I don't know as you
> are presented with the T&Cs again when you try to
> download the standard itself. (That may cause grief
> using download managers.)
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> The complete 802.11 file set is 10.8Mb
>
> 802.11 is 6.3Mb (the main standard)
> 802.11b is 1.1Mb (the 11Mb/s PHY extension)
> There is also a corrigendum to 802.11b at 440k.
>
> So get it while you can. Enjoy!
>
> Ant M1FDE

>
>
>
>
>
>
> ---
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> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 152. [ss] Re: ss digest: October 28, 2002

From: "John Champa" <k8ocl@hotmail.com>
Date: Wed, 30 Oct 2002 17:11:18 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-105007-2002.10.30-16.54.32--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Greetings!

The ARRL 802.11b Standard is still under development by our working group.
We expect to issue a call for papers to solicit help and support from TAPR
and the rest of the Amateur community in completing the development of the
standard, in the near future.

We also plan to have a webpage similar to our sister working group's webpage
up and running soon: http://www.arrl.org/tis/info/sdr.html  You will be able
to consult that for updates.

We also have a paper that was submitted to this year's DCC that you may wish
to read.

Vy 73,
John Champa, K8OCL
ARRL Chairman
High Speed Multimedia Working Group

From: "TAPR Spread Spectrum Special Interest Group digest"
<ss@lists.tapr.org>
Reply-To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
To: "ss digest recipients" <ss@lists.tapr.org>
Subject: ss digest: October 28, 2002
Date: Tue, 29 Oct 2002 00:00:17 -0500

TAPR Spread Spectrum Special Interest Group Digest for Monday, October 28,
2002.

1. Re: High speed networks...
2. RE: ARRL 802.11b Standard Development Support Request
3. Re: Darryl's talk at the DCC

---

Subject: Re: High speed networks...
From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Mon, 28 Oct 2002 18:43:28 +1100
X-Message-Number: 1

For those that missed my talk at the DCC I will sumerise

        802.11 has something for everyone... Radio people and computer
people.

        Part 15 people can use hams to help them with their networks,
since we know not to crimp N connectors with Plyers. These people are
interested in radio so having a ham radio person there is good publicity
for our hobby.

The microwave people can help the part 15 people with cheap 2.4 GHz antennas that resonate... Most don't - and they can make money to support their hobby at the same time. US$100 for an 3-8 dbi Onmi is not expensive in this world :-)

802.11 is a great technology for links out of the box. Hams can build networks on top of it... RSPF could be ported to it creating a mesh network. We can run proximity APRS; Digital Voice; Webcam ATV etc. The sky is the limit.

Ethernet up the tower is a viable option - So is USB. A USB access at the focus of a dish is a wonderful thing

802.11 is breakable in every area... Including range, power, packet sizes etc. Circuit diagrams are often available too.

The Orielly 802.11 book is required reading

802.11 is copied from AX.25. SSID is a ham radio term!!!!!!!

Darryl

---
Darryl Smith, VK2TDS  POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

---

Subject: RE: ARRL 802.11b Standard Development Support Request
From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Mon, 28 Oct 2002 19:18:03 +0000
X-Message-Number: 2

It would be nice if we had a standard specification
of the capabilities and configurability demanded by
amateurs from 802.11 devices. We could then
assess manufacturers products against these
bullet points and publish charts and league tables.

That would be a very useful thing indeed.

We'd know which products to buy which not to
buy. And which applications we should buy a
better product for, and when a cheaper product
would meet our goals.

If the standard thus established were sufficiently
*international* (remembering that most of these
things are *not* made in the USA, and many simply
export the feature-set of a chipset from Taiwan) some
suppliers may take notice.

Saying that a device is "802.11 compatible" does not
define the level of features offered. You do not know which
modes it supports (IBSS,  AP-client, AP-host, bridging)
or which modes it can support simultaneously. Neither
do you know the level of control over the protocol that,
in theory, should be available to you.

If you want an AP that supports bridging to 4 networks
simultaneously, with router and RIP support, which is
the minimum that you need for building meshes with
802.11, we should assert that as some level in our
spec.

To debug WLANS you need to do 802.11 packet sniffing
and analysis-  seems to be trivial with 'ethereal' and a
card in a desktop,  but an AP up a mast- can we do that?

I've previously made comments that suggested that
802.11 was unable to address the "hidden station"
problem, guaranteed if clients access a node with
directional antennas. I now have an excellent text on
the standard, and this is incorrect. As it stands it does a
better job than AX-25 and you can adjust the CTS and

FRAG values to make it better. More importantly, there
is a feature that enables an AP to take responsibility
for assigning contention-free periods to clients; it is the
PCF (point coordination function) as opposed to the
usual DCF (distributed coordination function). This
feature is not mandatory and may not be widely
supported in products (firmware/drivers), but it is a
feature amateur APs *must have*. Clients must also
support the feature otherwise they won't fully
participate in PCF-polls.

It would be very helpful to know which products
implement the PCF and to encourage support for PCF
from suppliers and driver-writers. Lobbying the 802.11
committees to make it mandatory in future revisions
might also be an option.

I would like to see national radio societies take a
position on standards committees (like 802.11)
which would enable them to assert the need for
features at this level. To do this they would need
to find technically competent volunteers and fund
their participation. If we have deployed experimental
networks and we can test proposed enhancements
to the standard then we have clout, and we could
probably do a lot of good.

My search for "ARRL 802.11" found no documents;
no such thing exists, does it?

Ant M1FDE

---

Subject: Re: Darryl's talk at the DCC
From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Mon, 28 Oct 2002 20:07:42 +0000
X-Message-Number: 3

> The Orielly 802.11 book is required reading

Seconded. I'm requiring myself to read every last page.

Author a Mr Matthew Gast, and edited by a ham radio man IIRC.

Ant

---

END OF DIGEST

---
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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

_____
Get a speedy connection with MSN Broadband.  Join now!
http://resourcecenter.msn.com/access/plans/freeactivation.asp

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 153. [ss] RSPF

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Thu, 31 Oct 2002 17:54:29 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-105078-2002.10.31-12.38.17--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The rspfd FAQ states this:

<<
8. Does RSPFd work over Ethernet?

 The short answer is no. If you really need to do this then you
may consider using an BPQEther device (AX25 other
Ethernet). See the AX25-HOWTO on how to configure one of
these beasties.It's likely that if you are trying to use RSPF over
ethernet then you are probably nconfiguring something wrong.
>>

It seems RSPF is applicable to AX25 networks but not to
ethernet and therefore to 802.11 WLAN. Is this a correct
assumption?

Is this because alternatives exist for ethernet networks?
Or just that rspfd doesn't implement them?
Or is the FAQ author totally misinformed why one might
want to use RSPF for ethernet as he's never thought
of WLAN?

I'm not suggesting that the algorithms underlying RSPF
aren't relevant, just that the RSPF protocols as used
by rspfd and the existing rspf implementations  are
in the current state unsuitable for 802.11 . Is this the
current state of play at the moment?

Ant

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 154. Your confirmation is needed (ok 6751)

From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Thu, 31 Oct 2002 13:31:56 -0500
To: lyris.ss@tapr.org
Message-ID: <LYR6751-105088-2002.10.31-13.31.56--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Your email address 'lyris.ss@tapr.org' has been submitted to be
unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be
unsubscribed.

To confirm that you do want to unsubscribe, reply to this message so that
the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to
unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the
mailing list.

---

Return-Path: <George.k@blogica.gr>
Return-Path: George.k@blogica.gr
Received: from prx-email-2000.proyex.es ([195.55.184.6]) by lists.tapr.org with SMTP (Lyris Server
version 3.0); Thu, 31 Oct 2002 13:31:50 -0500
Received: from mix.METHOSYSTEM.IT ([193.152.205.99]) by prx-email-2000.proyex.es with Microsoft
SMTPSVC(5.0.2195.4905);

```
         Thu, 31 Oct 2002 19:49:37 +0100
Message-ID: <00003ace1013$00007d61$00001435@mta.newzealandnz.co.nz>
To: ss-request
From: "Jessica P." <George.k@blogica.gr>
Subject:
Date: Thu, 31 Oct 2002 10:49:00 -2000
MIME-Version: 1.0
Content-Type: text/html;
        charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable
X-OriginalArrivalTime: 31 Oct 2002 18:49:40.0332 (UTC) FILETIME=[44C8A2C0:01C2810E]

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <George.k@blogica.gr>
Received: from prx-email-2000.proyex.es ([195.55.184.6]) by lists.tapr.org with SMTP (Lyris Server
version 3.0); Thu, 31 Oct 2002 13:31:50 -0500
Received: from mix.METHOSYSTEM.IT ([193.152.205.99]) by prx-email-2000.proyex.es with Microsoft
SMTPSVC(5.0.2195.4905);
         Thu, 31 Oct 2002 19:49:37 +0100
Message-ID: <00003ace1013$00007d61$00001435@mta.newzealandnz.co.nz>
To: <George.k@blogica.gr>
From: "Jessica P." <George.k@blogica.gr>
Subject: Free Debt Elimination Quote..
Date: Thu, 31 Oct 2002 10:49:00 -2000
MIME-Version: 1.0
Content-Type: text/html;
        charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable
Return-Path: George.k@blogica.gr
X-OriginalArrivalTime: 31 Oct 2002 18:49:40.0332 (UTC) FILETIME=[44C8A2C0:01C2810E]

<html>
<body bgcolor=3D"#ffffff">
<center>
<table border=3D"0" cellpadding=3D"2" cellspacing=3D"0">
 <tr>
  <td bgcolor=3D"#000000">
   <table bgcolor=3D"#ffffff" border=3D"0" width=3D"470" cellpadding=3D"5"=
 cellspacing=3D"0">
    <tr>
     <td bgcolor=3D"#000000" align=3D"center">
      <font face=3D"arial" size=3D"4" color=3D"#FCFCAF"><b>Reduce Your Deb=
t & Eliminate All Interest and Fees!</b></font></td>
    </tr>
    <tr>
     <td align=3D"center">
      <a href="http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/3D&amp;quot;ht
tp://www.virtual-biz.net/debt_fix&amp;quot;"><font face=3D"arial"=
 size=3D"4" color=3D"#0000ff">Click Here Now to Reduce Your Debt up to 60%=
</font></a></b></font></td>
    </tr>
    <tr>
     <td align=3D"center">
      <br>
      <font face=3D"arial" size=3D"4" color=3D"#000000"><B>Your Free, No O=
bligation Debt Consultation<br>is only a Click away!</B></font></td>
    </tr>
    <tr>
     <td align=3D"left">
      <font face=3D"arial" size=3D"2" color=3D"#5A106C">
      &#8226 <b>100% Confidential:</b> Your consultation is strictly =
private!</font></td>
    </tr>
    <tr>
     <td align=3D"left">
      <font face=3D"arial" size=3D"2" color=3D"#5A106C">
      &#8226 <b>Speed things up:</b> Pay off your balances faster!</f=
ont></td>
    </tr>
    <tr>
     <td align=3D"left">
      <font face=3D"arial" size=3D"2" color=3D"#5A106C">
      &#8226 <b>Eliminate Fees:</b> Get rid of those annoying Over-Li=
mit and Late Fees</font></td>
```

```
    </tr>
    <tr>
     <td align=3D"left">
      <font face=3D"arial" size=3D"2" color=3D"#5A106C">
      &#8226 <i>No Home Ownership required</i></font></td>
    </tr>
    <tr>
     <td align=3D"center">
      <br>
      <a href="http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/3D&quot;ht
tp://www.virtual-biz.net/debt_fix&quot;"><font face=3D"arial"=
 size=3D"5" color=3D"#0000ff"><b>Restore Your Credit Rating</font></a></b>
      <br><font face=3D"arial" size=3D"2" color=3D"#000000"><i>End credito=
r harrassment and leave the hassle behind!</i></font></td>
    </tr>
    <tr>
     <td bgcolor=3D"#000000" align=3D"center">
      <font face=3D"arial" size=3D"3" color=3D"#FCFCAF"><b>You can be Debt=
-Free in 24 Months or Less!</b></font></td>
    </tr>
   </table>
  </td>
 </tr>
</table>
<p><table bgcolor=3D"#ffffff" border=3D"0" width=3D"470" cellpadding=3D"5"=
 cellspacing=3D"0"><tr><td align=3D"left">
<font face=3D"arial" size=3D"1" color=3D"#000000">
We use the list management services of an independent 3rd party to ensure =
your address will be removed upon request.
  Please send your e-mail to <u>remove@virtual-biz.net</u> with the word
"remove" in the subject line if you wish to be taken off of our list.
    </tr>
   </table>
  </td>
 </tr>
</table></center>
</body>
</html>
```

## 155. [ss] Re: RSPF

From: "Eric S. Johansson" <esj@harvee.billerica.ma.us>
Date: Thu, 31 Oct 2002 14:46:06 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-105089-2002.10.31-14.29.22--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

```
Anthony N Martin wrote:
>
> I'm not suggesting that the algorithms underlying RSPF
> aren't relevant, just that the RSPF protocols as used
> by rspfd and the existing rspf implementations  are
> in the current state unsuitable for 802.11 . Is this the
> current state of play at the moment?

for something potentially more appropriate than RSPF take a look at:

http://www.mitre.org/tech_transfer/mobilemesh/

which is in use by some of the part 15 projects including:

http://wiki.haven.sh/index.php/WikiWikiWan

which has a goal we should adopt as our own namely, building an ad hoc
wireless network with no centralization and protection against
misbehaving nodes.

---eric


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
```

## 156. [ss] RE: RSPF

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Fri, 1 Nov 2002 08:39:11 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-105097-2002.10.31-16.22.30--lyris.ss#tapr.org@lists.tapr.org>

Rendered body type: text/plain

> It seems RSPF is applicable to AX25 networks but not to
> ethernet and therefore to 802.11 WLAN. Is this a correct
> assumption?

I'm not sure.  802.11b isn't Ethernet either, the MAC layer is different.

FWIW, some people have been playing with patched copies of Zebra and OSPF
for 802.11b dynamic routing.

---
Outgoing mail has been scanned for Viruses
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.408 / Virus Database: 230 - Release Date: 24/10/2002

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correspondence in error, please immediately delete it from your system and
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correspondence if you are not the intended recipient.

Any opinions expressed in this message are those of the individual sender.

---
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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 157. [ss] Wi-Fi Boosts Security

From: Greg Jones <wd5ivd@tapr.org>
Date: Thu, 31 Oct 2002 16:09:11 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-105101-2002.10.31-16.53.37--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

http://www.pcworld.com/news/article/0,aid,106530,00.asp

Industry group sets interim security enhancements designed to work
with legacy products.

Yardena Arar, PCWorld.com
Thursday, October 31, 2002

--
-----
Dr. Greg Jones
Lecturer, Dept. Technology and Cognition, College of Education
University of North Texas, Denton, Texas

(972) 492-5472 / Fax (972) 492-5476
email: greg@tapr.org / http://created-realities.com

Micro Credo:
         Never trust a computer bigger than you can lift.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
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# November 2002

Original source file: ss.0211
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/ss.0211

## 1. [ss] Re: RSPF

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Fri, 1 Nov 2002 09:53:33 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-105205-2002.11.01-04.37.31--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

for something potentially more appropriate than RSPF take a look at:

http://www.mitre.org/tech_transfer/mobilemesh/

Great, we can do Linux routers. Now what do the MS-windows
& Mac users use?

The concept of "non-proprietary protocol" is being stretched
a bit, as there's no RFC and only one implementation for one
OS (although the same could be said for DNS & BIND).

One might reasonably expect a router discovery program to
utilise all commonly available protocols to locate other routers,
in an ad-hoc  network one doesn't have control over what
other people might run.

Can anyone explain what's wrong with RIP, the current internet
router-to-router discovery protocol, for doing this task? What's
he reason for reinventing wheels?

Ant

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 2. [ss] Re: RSPF

From: "Eric S. Johansson" <esj@harvee.billerica.ma.us>
Date: Fri, 01 Nov 2002 08:25:17 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-105226-2002.11.01-08.08.37--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Anthony N Martin wrote:
>
> for something potentially more appropriate than RSPF take a look at:
>
> http://www.mitre.org/tech_transfer/mobilemesh/
>
> Great, we can do Linux routers. Now what do the MS-windows
> & Mac users use?

simple.  We use small, Linux based embedded systems for the routers to
do the work and there's no need to "disturb" the internals of Mac and
Windows systems.  Seriously, I'm becoming increasingly a fan of putting
network functionality in a stand-alone but modifiable box and leaving
the applications on other machines.  Making your desktop machine also
act as a wireless router is just asking for trouble.

> The concept of "non-proprietary protocol" is being stretched
> a bit, as there's no RFC and only one implementation for one
> OS (although the same could be said for DNS & BIND).

actually, now there are multiple implementations of dns but I don't
worry about the single implementation issue here.  The software is
licensed under the GPL, there are draft RFC documents on the Web site
and I think if it proves suitable, we could push it forward to full
standards status.

> Can anyone explain what's wrong with RIP, the current internet
> router-to-router discovery protocol, for doing this task? What's

> he reason for reinventing wheels?

from what I understand (and I'm not a router expert by any stretch of
the imagination) rip is extremely noisy on the network, doesn't handle
changes well, is oriented towards routing networks, not nodes, and
probably has a host of other sins.

The reason for the apparent reinventing the wheel in this context is
that unlike in the wired environment, routes are not predictable,
stable, or coarse-grained (i.e. networks).  In the mobile context, links
come and go at whim, they are node to node, and they're uncoordinated
and independent from each other.

---eric

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 3. [ss] locust world mesh AP

From: "Eric S. Johansson" <esj@harvee.billerica.ma.us>
Date: Fri, 01 Nov 2002 18:24:42 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-105280-2002.11.01-18.08.04--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

http://www.locustworld.com/ writes:

Finally the enabler has arrived! The Hardware  MeshAP has gone into
production! For £250 or $390 or 400 euros, you can own your own MeshAP.
Built with a 500mhz fanless processor, 128mb RAM, on board 802.11b
2.4ghz wireless adapter. 32mb compact flash drive. No moving parts! The
system utilises over-the-air self-updating software and cryptographic
mesh authentication. Prices drop to £220 or $340 or 350 euros for orders
of 10 or more... Join the mailing list, send a blank email to meshap
mailing list.

The MeshAP is a self contained Linux powered device, designed to provide
mesh connectivity, either by itself as a mesh repeater, or as a client /
server / internet gateway to the mesh.

You simply plug it into your PC and it connects you in to the wireless
network. If you have no internet connection, you can use one via the
MeshAP, or if you do have one, you can share this via the same mesh system.

It also contains all the standard functions of an access point, so it
can be used standalone or as part of the network.

Each unit has individual software and automatically loads new updates
over the air via the mesh as and when LocustWorld updates the software
distribution.

If you would like to order one or more of these units, please contact us.

The software which drives the MeshAP is available in the Downloads
section should you wish to build your own.

---
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## 4. [ss] Re: RSPF

From: "Bret A. Boggs" <bboggs@ameritech.net>
Date: Sun, 3 Nov 2002 11:13:09 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-105438-2002.11.03-11.00.41--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Ant,

Do a little research into mobile IP (i.e., a mobile user, say a car
moving down a freeway, move from one access point to another access
point with no interuption in service).  It is an interesting problem
that has generated several possible solutions.

Bret - WB8WKC

---
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## 5. [ss] Re: RSPF

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Mon, 4 Nov 2002 09:01:03 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-105508-2002.11.03-16.44.29--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> simple.  We use small, Linux based embedded systems for the
> routers to
> do the work and there's no need to "disturb" the internals of Mac and
> Windows systems.  Seriously, I'm becoming increasingly a fan
> of putting
> network functionality in a stand-alone but modifiable box and leaving
> the applications on other machines.  Making your desktop machine also
> act as a wireless router is just asking for trouble.

Makes sense to me.  That's exactly what the 802.11b wireless experimenters
do as well (often with old laptops)

> actually, now there are multiple implementations of dns but I don't
> worry about the single implementation issue here.  The software is
> licensed under the GPL, there are draft RFC documents on the Web site
> and I think if it proves suitable, we could push it forward to full
> standards status.

Being GPL, it shouldn't be too hard for a competent Windows (or other OS)
programmer to port across.

> The reason for the apparent reinventing the wheel in this context is
> that unlike in the wired environment, routes are not predictable,
> stable, or coarse-grained (i.e. networks).  In the mobile
> context, links
> come and go at whim, they are node to node, and they're uncoordinated
> and independent from each other.

Exactly, this is a different kettle of fish to the traditional dynamic
routing problem.

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## 6. [ss] Random Comments/Thoughts

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Tue, 5 Nov 2002 09:01:41 -0600 (CST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-105701-2002.11.05-09.43.45--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

ARRL 802.11b sounds like ham operating practices.  Not really any
modifications to 802.11b.  Which is okay to some extent.  Standards are
good, but the last thing I think we need right now are more restrictions
in this application.  Even if they are only gentlemans agreements. Besides
I don't really think there is much other 2.4 GHz ham stuff, and we are
pretty good about resolving our own problems.  I'd like to see someone
draft a NPRM to try to standardize spread spectrum.  As pointed out it
appears sub-standard.  It must yield to all other ham modes and then there
is the 1 watt PEP automatic power control deal.  Why not 3-4 watts and
make it like all the other modes.

I will also suggest that someone with lobbying power like the ARRL's HSMM
or TAPR approach some of the Wi-Fi manufactures and see if any are willing
to sell gear with modified operating frequencies.  Or an easy way to do
this ourselves.  I remember discussing that the government is also looking

into this concept.  Creating our own from ground up is like reinventing
the wheel.  A reasonably priced transverter might not be crazy.  If this
avenue is to be pursued as it probably should, what band is good then?  It
seems that 1296 MHz almost works mathematically, but there is probably
more ham activity there than 2.4 GHz, so which band?

Security is always at the top of the ham paranoia list.  Nothing we have
so far is secure, deal with it.  Any non-ham, can buy an HT and cause
havoc on a repeater.  True the potential may be higher in band sharing
situations.  With 802.11b (I still like FHSS thank you) you set an ESSID
or network name, and if you don't hide it, that's all it really takes to
latch on to someone's network.  So hide it.  Also run radius/MAC
authentication.  Change your MAC to your callsign and if someone by chance
gets your ESSID right and tries to duplicated your MAC, if you set it up
right it shouldn't allow a duplicate MAC, assuming your still talking to
network.

Minor Updates:
Using Part 15 Wireless Devices Under Part 97:
http://www.qsl.net/kb9mwr/projects/wireless/plan.html


---
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## 7. [ss] New Issue of Packet Status Register Available

From: John Ackermann  N8UR <jra@febo.com>
Date: Tue, 05 Nov 2002 11:09:27 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-105712-2002.11.05-10.58.48--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The Autumn 2002 issue of TAPR's journal, the _Packet_Status_Register_, is
now available online.

You can download it, and past issues of PSR, from http://www.tapr.org/psr
or via FTP from ftp.tapr.org/psr.  The issue name is "Autumn_85_2002.pdf".

73,
John N8UR

----
John Ackermann    N8UR         jra@febo.com     http://www.febo.com
President, TAPR                n8ur@tapr.org    http://www.tapr.org


---
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## 8. [ss] RE:Random Comments/Thoughts

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Wed, 6 Nov 2002 18:18:15 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-105816-2002.11.06-02.02.52--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The problem as I see it with the TAPR SS modem was that parts became
obsolete. The way that 802.11 is going I can see that anything that a
manufacturer will do for us will be obsolete very quickly too...

Lets have a look at the work a manufacturer needs to do if they want to
sell a HAM 802.11 on another frequency

1. Redesign their hardware
2. Probably modify some of their hardware
3. Get it all FCC approved
4. Package it and market it.

I don't think that you would would have much change left over from
tripple what you are paying for 802.11 today. Therefore we are left with
two options if we want a frequency change

1. Transverter
2. Internal Card Mods

I initially thought that #2 was the go. After all the chipsets have the
signals that we would need to play with... And with some work and with

the minicircuits catalog we could be in business. But this is not portable, and the way that the costs are dropping for 802.11 I can see that they need to do more integration and we loose the tap points that we need. Therefore I believe that option #1 is the option...

Realistically the biggest killer of transverter building is the TX/RX stuff. However I think you will find that some of this is commercially available, and coming down in price until the FCC decides that they are illegal. What I am talking about is a bidirectional amp. It contains about 1/2 of the circuitry that we need to build a transverter... Some minicircuits cans, and some oscilators, mixers, filters and the like and you have a transvertered 802.11 system.

As for the NPRM, I believe that that is an american thing to change the rules. My view would be to start using the 802.11 first, and then get the rules changed. I have a feeling that getting the 1W thing changed will be problematic - although there might be some ways to do it. Phil Karn KA9Q I believe suggested that rule and from what I remember have been attempting to un-suggest it ever since. The way to get it removed might be to somehow prove that keeping the rule and using the higher power forces you to use a Qualcomm patent on closed loop power control (although if you challenge the rule, you might find that the power limit is pushed to 1W maximum period.)

X-Message-Number: 1

ARRL 802.11b sounds like ham operating practices.  Not really any modifications to 802.11b.  Which is okay to some extent.  Standards are good, but the last thing I think we need right now are more restrictions in this application.  Even if they are only gentlemans agreements. Besides I don't really think there is much other 2.4 GHz ham stuff, and we are pretty good about resolving our own problems.  I'd like to see someone draft a NPRM to try to standardize spread spectrum.  As pointed out it appears sub-standard.  It must yield to all other ham modes and then there is the 1 watt PEP automatic power control deal.  Why not 3-4 watts and make it like all the other modes.

I don't know what the situation is in the US but over here in Oz, if someone connects to a ham automated system, and they start to use it without a licenses, then they are the ones in trouble. Not the person who has the license. Why should 802.11 be any different?

If you are concerned about the security, start implementing NoCat, or something like it. With NoCat (www.nocat.net) you log into a network over a secure connection, and that opens the network to your MAC address for the period of the connection. It is sort of a distributed radius/MAC system.

Darryl VK2TDS

---------
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

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## 9. [ss] RE:Random Comments/Thoughts

From: Greg Jones <wd5ivd@tapr.org>
Date: Wed, 6 Nov 2002 02:18:04 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-105817-2002.11.06-03.01.44--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>The problem as I see it with the TAPR SS modem was that parts became
>obsolete. The way that 802.11 is going I can see that anything that a
>manufacturer will do for us will be obsolete very quickly too...
>

I don't think the Part 15 SS market has changed much since we (TAPR when I was president) initially talked to most of the mfg several years ago.

They 1) see the amateur market as insignificant (more likely now as
part of their existing market) and 2) see amateur's using their
equipment as an interference threat to their primary market segment.

When we did find a company that was interested in working with us
(two in fact) -- it was normally at the engineering level (typically
a ham), but when the issue was elevated higher in the company a
decision maker would kill any potential equipment purchase or to
allow amateur access/modification for operation under Part 97.

I am sure it would be useful for someone to go back to the current
companies and see if things have changed, but I am pessimistic that
it has.

I have to agree with something Phil Karn said years ago.  If you are
going to use Part 15 devices, use them under Part 15.  Why go to the
trouble of trying to make them fit under Part 97.

Yes, there are some valid aspects to experimentation with 802.11
under Part 97 rules, but there are newer and better technology
approaches for our community to move forward with and expend limited
time, energy, and money on.  The 802.11 approach is ten+ years old.
Dewayne Hendricks and I started work on the Part 97 SS issues almost
eight years ago.

Granted the community has lived on inexpensive access to equipment to
allow us to do interesting applications.  TexNet and other packet
radio networks in the mid-80's were possible because of surplus radio
technology that could be adapted to 9600b modems.  Those radio were
ten+ years old at the time they came out of commercial service as
surplus.

Amateur radio operators live for a bargain that can be modified to do
something interesting.

>As for the NPRM, I believe that that is an american thing to change the
>rules. My view would be to start using the 802.11 first, and then get
>the rules changed. I have a feeling that getting the 1W thing changed
>will be problematic - although there might be some ways to do it. Phil
>Karn KA9Q I believe suggested that rule and from what I remember have
>been attempting to un-suggest it ever since. The way to get it removed
>might be to somehow prove that keeping the rule and using the higher
>power forces you to use a Qualcomm patent on closed loop power control
>(although if you challenge the rule, you might find that the power limit
>is pushed to 1W maximum period.)

I read something the other day and it made me think about this part
of the SS rule making we fought so hard for only to have this 1W rule
supported by the ARRL and adopted in the final rule making.  Even to
Phil's comments against. (see
http://www.tapr.org/tapr/html/rm8737/ka9q.comments.5.5.html under
Eliminate the automatic power control requirement).

"Those who express random thoughts to legislative committees are often
surprised and appalled to find themselves the instigators of law."
                -- Mark B. Cohen

If you don't know the history on how this happened, ask me at the DCC sometime.

The ARRL's interest has changed significantly over the past several
years in this area.  I will not go into why the ARRL filled the
initial rulemaking (that had the power control requirements) and not
TAPR .  If anyone has the lobby power and cash to spend on the legal
fees, the ARRL would be the only one that I know of at this time.
TAPR spent considerable time, energy, and money to get those SS rules
almost the way we wanted.  At the end of the day, we were happy with
the effort because we felt we got things rolling in the correct
direction.

Go forth and have fun.  Don't let the rules get in the way of
experimentation.  The history of Part 97 shows us that the rules will
adapt to the technology and what amateurs are doing with it.

Just some more random thoughts to those Darryl put forth.

Cheers - Greg

--

-----
Dr. Greg Jones
Lecturer, Dept. Technology and Cognition, College of Education
University of North Texas, Denton, Texas

(972) 492-5472 / Fax (972) 492-5476
email: greg@tapr.org / http://created-realities.com

Micro Credo:
         Never trust a computer bigger than you can lift.

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## 10. [ss] The Proposed ARRL 802.11b Standard (DRAFT)

From: "John Champa" <k8ocl@hotmail.com>
Date: Wed, 06 Nov 2002 06:29:18 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-105829-2002.11.06-06.12.53--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve,

We are working on all the areas you mention in your posting in the draft of the ARRL 802.11b Standard, except perhaps asking manufacturers to make something special for Hams in terms of Wi-Fi. That probably wouldn't be economically feasible relative to our goal of keeping things inexpensive and simple and off-the-shelf.

We are asking Ham antenna manufactures for horizontally-polarized, high-gain, omni-directions antennas for the upper end of the 2.4 GHz band. We are finding in our Livingston County, Michigan, HSMM experiments that running horizontal instead of vertical polarization does help us stay out of the way of the Part 15 users, plus seems to get through the trees better.

When it comes to frequencies, what other than Wi-Fi Channel 6 (2437 MHz...which we jokingly call the "HSMM National Simplex Calling Frequency"...HI) could one operate on 2.4 GHz anyway? Any higher frequency and you are out of the band, and any lower you are getting even more into other Ham modes and weak signal areas. It seems to be the only real choice.

John Champa
k8ocl.ham
Chairman, ARRL HSMM Working Group

From: "TAPR Spread Spectrum Special Interest Group digest"
<ss@lists.tapr.org>
Reply-To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
To: "ss digest recipients" <ss@lists.tapr.org>
Subject: ss digest: November 05, 2002
Date: Wed, 06 Nov 2002 00:01:23 -0500

TAPR Spread Spectrum Special Interest Group Digest for Tuesday, November 05, 2002.

1. Random Comments/Thoughts
2. New Issue of Packet Status Register Available

---

Subject: Random Comments/Thoughts
From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Tue, 5 Nov 2002 09:01:41 -0600 (CST)
X-Message-Number: 1

ARRL 802.11b sounds like ham operating practices. Not really any modifications to 802.11b. Which is okay to some extent. Standards are good, but the last thing I think we need right now are more restrictions in this application. Even if they are only gentlemans agreements. Besides I don't really think there is much other 2.4 GHz ham stuff, and we are pretty good about resolving our own problems. I'd like to see someone draft a NPRM to try to standardize spread spectrum. As pointed out it appears sub-standard. It must yield to all other ham modes and then there

is the 1 watt PEP automatic power control deal.  Why not 3-4 watts and
make it like all the other modes.

I will also suggest that someone with lobbying power like the ARRL's HSMM
or TAPR approach some of the Wi-Fi manufactures and see if any are willing
to sell gear with modified operating frequencies.  Or an easy way to do
this ourselves.  I remember discussing that the government is also looking
into this concept.  Creating our own from ground up is like reinventing
the wheel.  A reasonably priced transverter might not be crazy.  If this
avenue is to be pursued as it probably should, what band is good then?  It
seems that 1296 MHz almost works mathematically, but there is probably
more ham activity there than 2.4 GHz, so which band?

Security is always at the top of the ham paranoia list.  Nothing we have
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havoc on a repeater.  True the potential may be higher in band sharing
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or network name, and if you don't hide it, that's all it really takes to
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right it shouldn't allow a duplicate MAC, assuming your still talking to
network.

Minor Updates:
Using Part 15 Wireless Devices Under Part 97:
http://www.qsl.net/kb9mwr/projects/wireless/plan.html


------------------------------------------------------------------------

Subject: New Issue of Packet Status Register Available
From: John Ackermann   N8UR <jra@febo.com>
Date: Tue, 05 Nov 2002 11:09:27 -0500
X-Message-Number: 2

The Autumn 2002 issue of TAPR's journal, the _Packet_Status_Register_, is
now available online.

You can download it, and past issues of PSR, from http://www.tapr.org/psr
or via FTP from ftp.tapr.org/psr.  The issue name is "Autumn_85_2002.pdf".

73,
John N8UR

----
John Ackermann    N8UR         jra@febo.com     http://www.febo.com
President, TAPR                n8ur@tapr.org    http://www.tapr.org



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END OF DIGEST

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## 11. [ss] RE: Random Comments/Thoughts <LYR27907-105701-2002.11.05-09.43.45--rwmcgwier#comcast.net@lists.tapr.org>

From: Robert McGwier <rwmcgwier@comcast.net>
Date: Wed, 06 Nov 2002 08:52:21 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-105848-2002.11.06-08.36.07--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

There is basically one manufacturer that we <<may>> be
able to get somewhere with but I would not hold my
breath.   Cable modems, DSL cards,  802.11b, and 802.11a
cards where the part is not produced completely
internally (i.e. Motorola), base their devices around
Broadcom modem ASIC's.  These ASIC's take in IF and
produce IF and then can be adapted to the frequency of
choice. They can be made to produce all types of modems
(QAM, FSK, etc.).  The problem is they just don't talk to
folks that are producing for small markets and are decidely
unfriendly to the <100000 manufacturer (been there, done that,
have the tread marks on the T shirt from their leaving).

http://www.broadcom.com/

Bob N4HY


-----Original Message-----
From: bounce-ss-27907@lists.tapr.org
[mailto:bounce-ss-27907@lists.tapr.org]On Behalf Of Steve Lampereur
Sent: Tuesday, November 05, 2002 10:02 AM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] Random Comments/Thoughts

I will also suggest that someone with lobbying power like the ARRL's HSMM
or TAPR approach some of the Wi-Fi manufactures and see if any are willing
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Minor Updates:
Using Part 15 Wireless Devices Under Part 97:
http://www.qsl.net/kb9mwr/projects/wireless/plan.html


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## 12. [ss] RE: Random Comments/Thoughts <LYR27907-105701-2002.11.05-09.43.45--rwmcgwier#comcast.net@lists.tapr.org>

From: dubose@texas.net
Date: Wed, 6 Nov 2002 11:01:25 US/Central
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-105861-2002.11.06-11.44.59--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

If the DoD can purchase 2000-3000 commercial wireless NICs that have mfg.
suggested retail price of $129 and modified to their (agency) specs for $249
each, why couldn't the TAPR or the ARRL do the same?

Could it be "who you are?"  Ya think?

Walt/K5YFW

> There is basically one manufacturer that we <<may>> be
> able to get somewhere with but I would not hold my
> breath.   Cable modems, DSL cards,  802.11b, and 802.11a
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> folks that are producing for small markets and are decidely
> unfriendly to the <100000 manufacturer (been there, done that,

> have the tread marks on the T shirt from their leaving).
>
> http://www.broadcom.com/
>
> Bob N4HY
>
>
> -----Original Message-----
> From: bounce-ss-27907@lists.tapr.org
> [mailto:bounce-ss-27907@lists.tapr.org]On Behalf Of Steve Lampereur
> Sent: Tuesday, November 05, 2002 10:02 AM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Random Comments/Thoughts
>
> I will also suggest that someone with lobbying power like the ARRL's HSMM
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> Minor Updates:
> Using Part 15 Wireless Devices Under Part 97:
> http://www.qsl.net/kb9mwr/projects/wireless/plan.html
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## 13. [ss] RE: Random Comments/Thoughts

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Wed, 06 Nov 2002 12:09:16 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-105863-2002.11.06-12.01.32--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Walt,
Just curious where you got these prices from?  Specifically how much it costs
the DoD to have them modified?  If you know more please share.

>If the DoD can purchase 2000-3000 commercial wireless NICs that have mfg.
>suggested retail price of $129 and modified to their (agency) specs for $249
>each, why couldn't the TAPR or the ARRL do the same?
>
>Could it be "who you are?" Ya think?
>
>Walt/K5YFW

And John,

Thanks for listening to my input.

>When it comes to frequencies, what other than Wi-Fi Channel 6 (2437
>MHz...which we jokingly call the "HSMM National Simplex Calling
>Frequency"...HI) could one operate on 2.4 GHz anyway? Any higher frequency
>and you are out of the band, and any lower you are getting even more into
>other Ham modes and weak signal areas. It seems to be the only real choice.


From: http://www.qsl.net/kb9mwr/projects/wireless/allocations.html

```
Channel   Center Freq.  High Freq.  Low Freq.
   1         2.412        2.423       2.401
   2         2.417        2.428       2.404
   3         2.422        2.433       2.411
   4         2.427        2.438       2.416
   5         2.432        2.443       2.421
   6         2.437        2.448       2.426

Like you say Channel 1 might be something to stay away from since the AO-40
is there, but I guess it dosen't really matter since the Part 15 guys won't
be paying attention to this anyway.

Also I recently updated my Part 97 versus Part 15 and Permissible Power
Comparison section.  I put both options into comparison tables.
http://www.qsl.net/kb9mwr/projects/wireless/pwr.html
Let me know if there are errors.

Ham Ethernet Using Part 15 Wireless Etherenet Devices Under Part 97:
http://www.qsl.net/kb9mwr/projects/wireless/plan.html




---
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```

## 14. [ss] RE: Random Comments/Thoughts <LYR27907-105701-2002.11.05-09.43.45--rwmcgwier#comcast.net@lists.tapr.org>

From: "Jason A. Beens" <jbeens@sensetechnologies.com>
Date: Wed, 6 Nov 2002 11:30:32 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-105864-2002.11.06-12.09.31--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

```
I know this will be viewed as reinventing the wheel, but the only way to
make amateurs independent of the whims of the manufacturers is to
develop the technology themselves.  I think TAPR had the right idea with
the FHSS system they tried to develop.  Part obsolescence is always a
problem in electronic design.  This is part of the reason there is such
a large industry shift towards DSP in microprocessors and FPGAs.  The
code remains (mostly) intact even if the platform has to change for
obsolescence reasons.  If we are going to take the time to build a
transverter, why not have a group build an FPGA-based base band
processor tailored to Amateur needs?

oh well... I realize the tools to do such a development are well out of
the reach of most amateurs, but some hams have to have access to those
tools.  If a base band processing module were developed by a group and
sold to the amateur community with a transverter to get the signals to
frequency, then we would have an open platform to promote amateur
experimentation.

I fear experimentation has become stagnant in some of the more advanced
communications fields like DSP, mostly because of tool barriers.  We
need to find a way to break those barriers down.

Jason Beens
KB0CDN
-----Original Message-----
From: bounce-ss-22185@lists.tapr.org
[mailto:bounce-ss-22185@lists.tapr.org]On Behalf Of dubose@texas.net
Sent: Wednesday, November 06, 2002 5:01 AM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] RE: Random Comments/Thoughts
<LYR27907-105701-2002.11.05-09.43.45--rwmcgwier#comcast.net@lists.tapr.o
rg>


If the DoD can purchase 2000-3000 commercial wireless NICs that have
mfg.
suggested retail price of $129 and modified to their (agency) specs for
$249
each, why couldn't the TAPR or the ARRL do the same?

Could it be "who you are?"  Ya think?

Walt/K5YFW
```

> There is basically one manufacturer that we <<may>> be
> able to get somewhere with but I would not hold my
> breath.  Cable modems, DSL cards,  802.11b, and 802.11a
> cards where the part is not produced completely
> internally (i.e. Motorola), base their devices around
> Broadcom modem ASIC's.  These ASIC's take in IF and
> produce IF and then can be adapted to the frequency of
> choice. They can be made to produce all types of modems
> (QAM, FSK, etc.).  The problem is they just don't talk to
> folks that are producing for small markets and are decidely
> unfriendly to the <100000 manufacturer (been there, done that,
> have the tread marks on the T shirt from their leaving).
>
> http://www.broadcom.com/
>
> Bob N4HY
>
>
> -----Original Message-----
> From: bounce-ss-27907@lists.tapr.org
> [mailto:bounce-ss-27907@lists.tapr.org]On Behalf Of Steve Lampereur
> Sent: Tuesday, November 05, 2002 10:02 AM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Random Comments/Thoughts
>
> I will also suggest that someone with lobbying power like the ARRL's
HSMM
> or TAPR approach some of the Wi-Fi manufactures and see if any are
willing
> to sell gear with modified operating frequencies.  Or an easy way to
do
> this ourselves.  I remember discussing that the government is also
looking
> into this concept.  Creating our own from ground up is like
reinventing
> the wheel.  A reasonably priced transverter might not be crazy.  If
this
> avenue is to be pursued as it probably should, what band is good then?
It
> seems that 1296 MHz almost works mathematically, but there is probably
> more ham activity there than 2.4 GHz, so which band?
>
>
> Minor Updates:
> Using Part 15 Wireless Devices Under Part 97:
> http://www.qsl.net/kb9mwr/projects/wireless/plan.html
>
>
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>
>
>
>
> ---
> You are currently subscribed to ss as: dubose@texas.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>



---
You are currently subscribed to ss as: jbeens@sensetechnologies.com
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org



---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 15. [ss] RE: Random Comments/Thoughts

From: dubose@texas.net
Date: Wed, 6 Nov 2002 11:37:19 US/Central
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-105867-2002.11.06-12.20.52--lyris.ss#tapr.org@lists.tapr.org>

Rendered body type: text/plain

> Walt,
> Just curious where you got these prices from?  Specifically how much it costs
> the DoD to have them modified?  If you know more please share.

Steve,

I knew someone would ask...

I would like that very much.  However, I in my employment, I fall under the
Procurement Integrity Act and as such I cannot reveil information under the
Freedon Of Iinformation Act (FOIA).

However, I would encounage you to go to the procurement offices of the various
DoD departments and request the information under the FOIA.  This may be
difficult though since the items were probably considered commercial or
commercial like and fell under the small purchase threshole and as such it was
not necessary for the department to advertise the solicitation or award in
FedBizOps (http://eps.gov).  Also, you might search various government computer
related magazines and see if the information appeared there.

Since Robert brought up, was it Boradcom?  I saw cable modems.  Now I am
wondering if anyone has given thought to converting one of these to a hamband?

I don't recall freqency they use and assume that the output is very low...but
perhaps that is the way to go.

Walt

> >If the DoD can purchase 2000-3000 commercial wireless NICs that have mfg.
> >suggested retail price of $129 and modified to their (agency) specs for $249
> >each, why couldn't the TAPR or the ARRL do the same?
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> And John,
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> Thanks for listening to my input.
>
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> >MHz...which we jokingly call the "HSMM National Simplex Calling
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> >and you are out of the band, and any lower you are getting even more into
> >other Ham modes and weak signal areas. It seems to be the only real choice.
>
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>    4         2.427        2.438       2.416
>    5         2.432        2.443       2.421
>    6         2.437        2.448       2.426
>
> Like you say Channel 1 might be something to stay away from since the AO-40
> is there, but I guess it dosen't really matter since the Part 15 guys won't
> be paying attention to this anyway.
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> Also I recently updated my Part 97 versus Part 15 and Permissible Power
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> Let me know if there are errors.
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> Ham Ethernet Using Part 15 Wireless Etherenet Devices Under Part 97:
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>
>
>
>
> ---
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>

---
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## 16. [ss] RE: Random Comments/Thoughts <LYR27907-105701-2002.11.05-09.43.45--rwmcgwier#comcast.net@lists.tapr.org>

From: dubose@texas.net
Date: Wed, 6 Nov 2002 11:42:21 US/Central
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-105868-2002.11.06-12.25.54--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Jason wrote:

<snip>

Please make note of Jason's E-mail address and see URL:
http://www.sensetechnologies.com/

Walt

---
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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 17. [ss] RE: Random Comments/Thoughts <LYR27907-105701-2002.11.05-09.43.45--rwmcgwier#comcast.net@lists.tapr.org>

From: "Lyle Johnson" <wa7gxd@fidalgo.net>
Date: Wed, 6 Nov 2002 09:55:16 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-105875-2002.11.06-12.39.39--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> ...If we are going to take the time to build a
> transverter, why not have a group build an FPGA-based base band
> processor tailored to Amateur needs?

Defing those needs may be the hardest part...

> oh well... I realize the tools to do such a development are well out of
> the reach of most amateurs, but some hams have to have access to those
> tools.

The tools are free!

For example, QuickLogic offers a free tool set for ther entire FPGA line.
Altera and Xilinx offer free tools that cover enough of their product line
for a project like this.  Actel's free tools are restricted to their smaller
parts such that I doubt they could be used for this.These are all Windoze
based, and work quite well.  I haven't checked on the Atmel, Cypress or
Lattice tool chains recently.

The other big piece of a baseband processor is an embedded CPU.  The ARM is
often used.  GNU tools are available for this CPU at no cost.  Windoze tools
are expen$ive for this part.  Used Acorn computers are cheap, though, as are
tools for that platform which is ARM-based.

As with most large Amateur projects, it isn't the tools.  It's the talent
and time.

73,

Lyle KK7P

---
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## 18. [ss] HFSS

From: "P.Gavalas" <ela97pg@sheffield.ac.uk>
Date: Wed, 6 Nov 2002 18:04:29 -0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-105876-2002.11.06-12.47.21--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Has anyone use Ansoft's HFSS? I will be needing feedback at times. I am
trying to simulate a wideband coax to waveguide transformer at mobile
frequencies.

I will be using a wg975 (=wg4 in the UK) waveguide and standard 50Ohm coax.

The trouble is you see when you make it wideband (ie corresponding properly
to 0.75GHz up to 1.12GHz due to the waveguide's limitations) a probe is
needed. There is not enough info around on probes like that and the designs
are mostly emperical.

If scaled up versions of existing probe designes are to be used then the
geometry of the probe will be way to much for the inner conductor of the
coax giving a lot of static back.

If VSWR is minimised provided a well behaved probe is used then tests on
bradband transitions on the frequencies above will become a piece of cake.

I am trying to make a matrix of possible probes and designes that worked for
people in the past.

If anyone can provide me with feedback on such designs and HFSS I will very
much appreciate it.

Very best regards to all,
Panos

---
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## 19. [ss] RE: Random Comments/Thoughts

From: "Jason A. Beens" <jbeens@sensetechnologies.com>
Date: Wed, 6 Nov 2002 12:15:50 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-105877-2002.11.06-12.54.50--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I had thought about this before...

Cable Modems use two frequency ranges, one for upstream and the other
for downstream.  In the US the upstream runs from 5-42 MHz and the
downstream from 60-850...  (there is lattitude on the exact range of the
downstream.)

Output levels may be as high as 65 dBmv into 75 Ohms.  Pretty good
output power.

The biggest problem with cable modems is that they are intended for
wired networks where the channel is gausian in nature.  the equalizers
used in the system are intended to EQ out fixed impairments.  The
rapidly changing environment of a wireless or even worse a wireless
mobile installation will likely be too much for the EQ's to handle.

-----Original Message-----
From: bounce-ss-22185@lists.tapr.org
[mailto:bounce-ss-22185@lists.tapr.org]On Behalf Of dubose@texas.net
Sent: Wednesday, November 06, 2002 5:37 AM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] RE: Random Comments/Thoughts

> Walt,
> Just curious where you got these prices from?  Specifically how much
it costs
> the DoD to have them modified?  If you know more please share.

Steve,

I knew someone would ask...

I would like that very much.  However, I in my employment, I fall under
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Procurement Integrity Act and as such I cannot reveil information under
the
Freedon Of Iinformation Act (FOIA).

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difficult though since the items were probably considered commercial or
commercial like and fell under the small purchase threshole and as such
it was
not necessary for the department to advertise the solicitation or award
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wondering if anyone has given thought to converting one of these to a
hamband?

I don't recall freqency they use and assume that the output is very
low...but
perhaps that is the way to go.

Walt

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> ---
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>

---
You are currently subscribed to ss as: jbeens@sensetechnologies.com
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org



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You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 20. [ss] RE: Random Comments/Thoughts

From: "Jason A. Beens" <jbeens@sensetechnologies.com>
Date: Wed, 6 Nov 2002 12:17:09 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-105878-2002.11.06-12.56.19--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I forgot the killer about cable modems is that the upstream system is a
burst type system and the downstream system is a continuous mode system.
THe resulting TX/RX pair is incompatible...

-----Original Message-----
From: bounce-ss-22185@lists.tapr.org
[mailto:bounce-ss-22185@lists.tapr.org]On Behalf Of dubose@texas.net
Sent: Wednesday, November 06, 2002 5:37 AM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] RE: Random Comments/Thoughts

---
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## 21. [ss] RE: Random Comments/Thoughts <LYR27907-105701-2002.11.05-09.43.45--rwmcgwier#comcast.net@lists.tapr.org>

From: "Jason A. Beens" <jbeens@sensetechnologies.com>
Date: Wed, 6 Nov 2002 12:24:09 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-105881-2002.11.06-13.03.05--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I agree that some tools are free, but not the ones from the industry
leaders in FPGA.  Xilinx offers thier web based tools for free, but if
you want to simulate or time something... then you have  to shell out
cash.
-----Original Message-----
From: bounce-ss-22185@lists.tapr.org
[mailto:bounce-ss-22185@lists.tapr.org]On Behalf Of Lyle Johnson
Sent: Wednesday, November 06, 2002 11:55 AM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] RE: Random Comments/Thoughts
<LYR27907-105701-2002.11.05-09.43.45--rwmcgwier#comcast.net@lists.tapr.o
rg>



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Lyle KK7P


---
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## 22. [ss] RE: Random Comments/Thoughts <LYR27907-105877-2002.11.06-12.54.50--rwmcgwier#comcast.net@lists.tapr.org>

From: Robert McGwier <rwmcgwier@comcast.net>
Date: Wed, 06 Nov 2002 13:20:13 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-105882-2002.11.06-13.04.13--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Broadcom produces a part that will do both changing and
static environments.  If you go to their web page you
will see they produce parts for 802.11a and b.

Broadcom is at the heart of many if not most cable modems,
dsl modems, and rapidly taking over the wireless market as
well.

Bob


-----Original Message-----
From: bounce-ss-27907@lists.tapr.org
[mailto:bounce-ss-27907@lists.tapr.org]On Behalf Of Jason A. Beens
Sent: Wednesday, November 06, 2002 1:16 PM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] RE: Random Comments/Thoughts


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Walt

> >If the DoD can purchase 2000-3000 commercial wireless NICs that have
mfg.
> >suggested retail price of $129 and modified to their (agency) specs
for $249
> >each, why couldn't the TAPR or the ARRL do the same?
> >
> >Could it be "who you are?" Ya think?
> >
> >Walt/K5YFW
>
> And John,
>
> Thanks for listening to my input.
>
> >When it comes to frequencies, what other than Wi-Fi Channel 6 (2437
> >MHz...which we jokingly call the "HSMM National Simplex Calling
> >Frequency"...HI) could one operate on 2.4 GHz anyway? Any higher
frequency
> >and you are out of the band, and any lower you are getting even more
into
> >other Ham modes and weak signal areas. It seems to be the only real
choice.
>
>
> From: http://www.qsl.net/kb9mwr/projects/wireless/allocations.html
>
> Channel   Center Freq.  High Freq.  Low Freq.
>    1         2.412        2.423       2.401
>    2         2.417        2.428       2.404
>    3         2.422        2.433       2.411
>    4         2.427        2.438       2.416
>    5         2.432        2.443       2.421
>    6         2.437        2.448       2.426
>
> Like you say Channel 1 might be something to stay away from since the
AO-40
> is there, but I guess it dosen't really matter since the Part 15 guys

won't
> be paying attention to this anyway.
>
> Also I recently updated my Part 97 versus Part 15 and Permissible
Power
> Comparison section.  I put both options into comparison tables.
> http://www.qsl.net/kb9mwr/projects/wireless/pwr.html
> Let me know if there are errors.
>
> Ham Ethernet Using Part 15 Wireless Etherenet Devices Under Part 97:
> http://www.qsl.net/kb9mwr/projects/wireless/plan.html
>
>
>
>
> ---
> You are currently subscribed to ss as: dubose@texas.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>

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You are currently subscribed to ss as: jbeens@sensetechnologies.com
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

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You are currently subscribed to ss as: rwmcgwier@comcast.net
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

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You are currently subscribed to ss as: lyris.ss@tapr.org
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## 23. [ss] RE: Random Comments/Thoughts

From: dubose@texas.net
Date: Wed, 6 Nov 2002 12:21:02 US/Central
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-105883-2002.11.06-13.04.41--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> I forgot the killer about cable modems is that the upstream system is a
> burst type system and the downstream system is a continuous mode system.
> THe resulting TX/RX pair is incompatible...
>

How about a power CMTS located at a site like a repeater?  -- wdd

> -----Original Message-----
> From: bounce-ss-22185@lists.tapr.org
> [mailto:bounce-ss-22185@lists.tapr.org]On Behalf Of dubose@texas.net
> Sent: Wednesday, November 06, 2002 5:37 AM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] RE: Random Comments/Thoughts
>
> ---
> You are currently subscribed to ss as: dubose@texas.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 24. [ss] RE: HFSS

From: "Jason A. Beens" <jbeens@sensetechnologies.com>
Date: Wed, 6 Nov 2002 12:27:25 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-105884-2002.11.06-13.06.35--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The tech support for Ansoft products is great.  When in doubt send them
your model, and they will help you through establishing hte boundary
conditions and problem setup.  My experience with them has been good,
and they usually turn around a help request within a couple of days.

-----Original Message-----
From: bounce-ss-22185@lists.tapr.org
[mailto:bounce-ss-22185@lists.tapr.org]On Behalf Of P.Gavalas
Sent: Wednesday, November 06, 2002 12:04 PM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] HFSS


Has anyone use Ansoft's HFSS? I will be needing feedback at times. I am
trying to simulate a wideband coax to waveguide transformer at mobile
frequencies.

I will be using a wg975 (=wg4 in the UK) waveguide and standard 50Ohm
coax.

The trouble is you see when you make it wideband (ie corresponding
properly
to 0.75GHz up to 1.12GHz due to the waveguide's limitations) a probe is
needed. There is not enough info around on probes like that and the
designs
are mostly emperical.

If scaled up versions of existing probe designes are to be used then the
geometry of the probe will be way to much for the inner conductor of the
coax giving a lot of static back.

If VSWR is minimised provided a well behaved probe is used then tests on
bradband transitions on the frequencies above will become a piece of
cake.

I am trying to make a matrix of possible probes and designes that worked
for
people in the past.

If anyone can provide me with feedback on such designs and HFSS I will
very
much appreciate it.

Very best regards to all,
Panos


---
You are currently subscribed to ss as: jbeens@sensetechnologies.com
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org



---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 25. [ss] RE: HFSS

From: "P.Gavalas" <ela97pg@sheffield.ac.uk>
Date: Wed, 6 Nov 2002 18:31:35 -0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-105885-2002.11.06-13.14.30--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Yes I know I understand...
At the minute the University of Sheffield will not support 2000 sterlings
per year to get support. Thus I am left with no support at all!!!

Getting support from Ansoft in the UK is expensive and they will not give
you as much feedback as the do in the US!!

This is why I have no other option than contacting people who are keen with
HFSS

Except for that I would like to know if anyone has come across such probes.
If yes I will need feedback on such designes.

Panos

The tech support for Ansoft products is great.  When in doubt send them
your model, and they will help you through establishing hte boundary
conditions and problem setup.  My experience with them has been good,
and they usually turn around a help request within a couple of days.

-----Original Message-----
From: bounce-ss-22185@lists.tapr.org
[mailto:bounce-ss-22185@lists.tapr.org]On Behalf Of P.Gavalas
Sent: Wednesday, November 06, 2002 12:04 PM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] HFSS


Has anyone use Ansoft's HFSS? I will be needing feedback at times. I am
trying to simulate a wideband coax to waveguide transformer at mobile
frequencies.

I will be using a wg975 (=wg4 in the UK) waveguide and standard 50Ohm
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The trouble is you see when you make it wideband (ie corresponding
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needed. There is not enough info around on probes like that and the
designs
are mostly emperical.

If scaled up versions of existing probe designes are to be used then the
geometry of the probe will be way to much for the inner conductor of the
coax giving a lot of static back.

If VSWR is minimised provided a well behaved probe is used then tests on
bradband transitions on the frequencies above will become a piece of
cake.

I am trying to make a matrix of possible probes and designes that worked
for
people in the past.

If anyone can provide me with feedback on such designs and HFSS I will
very
much appreciate it.

Very best regards to all,
Panos


---
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---
You are currently subscribed to ss as: ela97pg@sheffield.ac.uk
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org



---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 26. [ss] RE: Random Comments/Thoughts

From: "Jason A. Beens" <jbeens@sensetechnologies.com>
Date: Wed, 6 Nov 2002 12:37:50 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-105886-2002.11.06-13.16.54--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

ok, that would take care of the problem, but cable modem to cable modem
communications would not be possible without a CMTS acting as a relay.

-----Original Message-----
From: bounce-ss-22185@lists.tapr.org
[mailto:bounce-ss-22185@lists.tapr.org]On Behalf Of dubose@texas.net
Sent: Wednesday, November 06, 2002 6:21 AM
To: TAPR Spread Spectrum Special Interest Group

Subject: [ss] RE: Random Comments/Thoughts

> I forgot the killer about cable modems is that the upstream system is
a
> burst type system and the downstream system is a continuous mode
system.
> THe resulting TX/RX pair is incompatible...
>

How about a power CMTS located at a site like a repeater?  -- wdd

> -----Original Message-----
> From: bounce-ss-22185@lists.tapr.org
> [mailto:bounce-ss-22185@lists.tapr.org]On Behalf Of dubose@texas.net
> Sent: Wednesday, November 06, 2002 5:37 AM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] RE: Random Comments/Thoughts
>
> ---
> You are currently subscribed to ss as: dubose@texas.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>

---
You are currently subscribed to ss as: jbeens@sensetechnologies.com
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You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 27. [ss] RE: Random Comments/Thoughts <LYR27907-105877-2002.11.06-12.54.50--rwmcgwier#comcast.net@lists.tapr.org>

From: "Jason A. Beens" <jbeens@sensetechnologies.com>
Date: Wed, 6 Nov 2002 12:44:36 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-105889-2002.11.06-13.23.41--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have dealt with broadcom in the past, and they will not speak with you
unless you command a percentage of the marketplace.  Check out their
website and try to get a datasheet.

www.broadcom.com

You will find product briefs and marketing releases, but no datasheet.
The last time I dealt with them they wanted $50k to see their
datasheets.  After the whole telecom debacle, that price was either
reduced or dropped... I don't know.  I think in the end my company paid
the cash or some part of the cash, and I was able to see the datasheet.

If you can get their parts, then they are absolutely great. The folks
that put those Asics together know their stuff.  I just would have
serious worries about availability.

-----Original Message-----
From: bounce-ss-22185@lists.tapr.org
[mailto:bounce-ss-22185@lists.tapr.org]On Behalf Of Robert McGwier
Sent: Wednesday, November 06, 2002 12:20 PM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] RE: Random Comments/Thoughts
<LYR27907-105877-2002.11.06-12.54.50--rwmcgwier#comcast.net@lists.tapr.o
rg>

Broadcom produces a part that will do both changing and
static environments.  If you go to their web page you
will see they produce parts for 802.11a and b.

Broadcom is at the heart of many if not most cable modems,
dsl modems, and rapidly taking over the wireless market as
well.

Bob

-----Original Message-----
From: bounce-ss-27907@lists.tapr.org
[mailto:bounce-ss-27907@lists.tapr.org]On Behalf Of Jason A. Beens
Sent: Wednesday, November 06, 2002 1:16 PM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] RE: Random Comments/Thoughts


I had thought about this before...

Cable Modems use two frequency ranges, one for upstream and the other
for downstream.  In the US the upstream runs from 5-42 MHz and the
downstream from 60-850...  (there is lattitude on the exact range of the
downstream.)

Output levels may be as high as 65 dBmv into 75 Ohms.  Pretty good
output power.

The biggest problem with cable modems is that they are intended for
wired networks where the channel is gausian in nature.  the equalizers
used in the system are intended to EQ out fixed impairments.  The
rapidly changing environment of a wireless or even worse a wireless
mobile installation will likely be too much for the EQ's to handle.

-----Original Message-----
From: bounce-ss-22185@lists.tapr.org
[mailto:bounce-ss-22185@lists.tapr.org]On Behalf Of dubose@texas.net
Sent: Wednesday, November 06, 2002 5:37 AM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] RE: Random Comments/Thoughts


> Walt,
> Just curious where you got these prices from?  Specifically how much
it costs
> the DoD to have them modified?  If you know more please share.

Steve,

I knew someone would ask...

I would like that very much.  However, I in my employment, I fall under
the
Procurement Integrity Act and as such I cannot reveil information under
the
Freedon Of Iinformation Act (FOIA).

However, I would encounage you to go to the procurement offices of the
various
DoD departments and request the information under the FOIA.  This may be

difficult though since the items were probably considered commercial or
commercial like and fell under the small purchase threshole and as such
it was
not necessary for the department to advertise the solicitation or award
in
FedBizOps (http://eps.gov).  Also, you might search various government
computer
related magazines and see if the information appeared there.

Since Robert brought up, was it Boradcom?  I saw cable modems.  Now I am

wondering if anyone has given thought to converting one of these to a
hamband?

I don't recall freqency they use and assume that the output is very
low...but
perhaps that is the way to go.

Walt

> >If the DoD can purchase 2000-3000 commercial wireless NICs that have
mfg.
> >suggested retail price of $129 and modified to their (agency) specs
for $249
> >each, why couldn't the TAPR or the ARRL do the same?
> >

> >Could it be "who you are?" Ya think?
> >
> >Walt/K5YFW
>
> And John,
>
> Thanks for listening to my input.
>
> >When it comes to frequencies, what other than Wi-Fi Channel 6 (2437
> >MHz...which we jokingly call the "HSMM National Simplex Calling
> >Frequency"...HI) could one operate on 2.4 GHz anyway? Any higher
frequency
> >and you are out of the band, and any lower you are getting even more
into
> >other Ham modes and weak signal areas. It seems to be the only real
choice.
>
>
> From: http://www.qsl.net/kb9mwr/projects/wireless/allocations.html
>
> Channel   Center Freq.  High Freq.  Low Freq.
>    1         2.412        2.423       2.401
>    2         2.417        2.428       2.404
>    3         2.422        2.433       2.411
>    4         2.427        2.438       2.416
>    5         2.432        2.443       2.421
>    6         2.437        2.448       2.426
>
> Like you say Channel 1 might be something to stay away from since the
AO-40
> is there, but I guess it dosen't really matter since the Part 15 guys
won't
> be paying attention to this anyway.
>
> Also I recently updated my Part 97 versus Part 15 and Permissible
Power
> Comparison section.  I put both options into comparison tables.
> http://www.qsl.net/kb9mwr/projects/wireless/pwr.html
> Let me know if there are errors.
>
> Ham Ethernet Using Part 15 Wireless Etherenet Devices Under Part 97:
> http://www.qsl.net/kb9mwr/projects/wireless/plan.html
>
>
>
>
> ---
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## 28. [ss] RE:Random Comments/Thoughts

From: Jeff King <jeff@aerodata.net>
Date: Wed, 6 Nov 2002 13:59:49 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-105894-2002.11.06-13.43.38--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Wed, 6 Nov 2002 02:18:04 -0600, Greg Jones wrote:

>I have to agree with something Phil Karn said years ago.  If you are
>going to use Part 15 devices, use them under Part 15.  Why go to the
>trouble of trying to make them fit under Part 97.

While I agree with that statement, if they want to, why discourage them? Now, if the goal is to get more hams,  this needs to be addressed (like getting the APC limit up to 10 watts).

The one idea of the ARRL HSSM is to get hams playing with spread spectrum and place their ideas into the mainstream of amateur radio. And from what I have observed, they are well on their way to that goal.

>Yes, there are some valid aspects to experimentation with 802.11
>under Part 97 rules, but there are newer and better technology
>approaches for our community to move forward with and expend limited
>time, energy, and money on.

Good points, however the problem with this pure approach is you never ever reach critical mass. I.E. we are where we are with nothing much to show from organizations whose goal it was to promote this technology. You have to face the fact that mainstream ham radio is not the main innovator in spread spectrum, as such, your going to have to coattail on others it for a while.

>Amateur radio operators live for a bargain that can be modified to
>do something interesting.

Exactly. And TAPR has recently made some steps forward here by recognizing experimenters like Steve Lampereur and others which was long long overdue (the part 15 community having already recognized him years ago). This currently is the forefront of amateur radio Spread Spectrum experimentation... i.e. people that are implementing and we need to encourage this.

-Jeff

---
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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 29. [ss] Re: Random Comments/Thoughts

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Wed, 6 Nov 2002 19:33:07 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-105896-2002.11.06-14.17.09--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

What are the ARRL "recommended practices" for 802.11?
Are they posted anywhere?

The first 3 octets of a MAC address encodes a manufacturer identifier. This is useful to help identify misconfigured/buggy/ misused ethernet devices. No-one should "recommend" changing it. It's supposed to be factory-set, and held in non-volatile EEPROM. Tools for changing it aren't available for most devices. This "misfeature" on open-source tools may not be very well tested either; if it breaks your WLAN card; you have no-one to cry to.

The SSID isn't supposed to be a callsign and I doubt it has legal standing as such. Anyone can use any random characters in the SSID. There's no way to stop non-amateurs using SSIDs that look like amateur callsigns. Within the 802.11/FCC/ETSI standards licence-free users are granted free choice of SSID string. The only "callsign" required of them is the unique MAC address, assigned through the standards-based process. (Another good reason

amateurs should not abuse MAC addresses.)

At this point it seems that the best way for hams to identify
amateur 802.11 stations is to register their MAC addresses
against their callsign in a public database. This should be
permitted as then it becomes a public-knowledge encoding,
like "QSL-codes" or "morse" or "ASCII". You've also got
reasonable protection that your ident can't be spoofed by
non-amateurs. If they modify their MAC address they
would void their licence-free status; and it's also technically
difficult for all but a few cards/OS combinations.

Unless you're prepared to use proven strong crypto
authentication (kerberos or whatever) attempts to obstruct
non-amateurs will be broken. Like WEP. MAC address
filtering is available, but I'd rather have fewer motives
for modifying MAC addresses, as its usefulness would
be lost.

It's well-established that crypto can't be used on amateur
traffic. Whether one-way hashes are allowed to obscure
authentication data is yet to be tested. Otherwise some
kind of single-use password system; ie. the data is plaintext
but immediately useless. Secrets enable you to predict
the next password.

Personally I think it's better to be friends with the neighbours
rather than throw rocks at them, then you won't need
steel fences. We're all used to sharing the same street with
our neighbours when we drive our cars. I don't see
custom-cars on a separate set of roads, even though they
might have souped-up engines :^)

If you want a specific frequency band for FH users then
table an ammendment to 802.11 to get another regulatory
domain added. Legal compliance is a strong justification
for an ammendment.  But I think a potential issue here is
that amateur 2.4GHz allocations are not internationally
universal; we can't have a whole raft of new domains, so
some common denominator must be found.

802.11 is in dire need of a way for APs to authenticate
themselves to clients ATM. Current protocols only
authenticate clients to APs. This is folly as you can easily
create a bogus AP and steal the client's credentials.
If you can propose a good authentication solution,
perhaps the 802.11 committees will adopt it, and you
could ensure the traffic encryption bit is separate.

At the radio club we had a talk last night about ATV & ATV
antennas. He said it wasn't hard to bridge the channel from
England to Holland with ATV on 2.4GHz. If it can be done
with 10mW ATV, surely it can be done with 100mW WLAN. A
good publicity stunt for amateur spread-spectrum, must be
worth a go! It relies on ducting over water as it's over the
horizon so it's not 24/7, but  when it connects you could
deliver a very large capacity of waiting e-mails and multiple
QSOs...

Thinking of water, a floating AP mounted on a buoy would
seem to be best placed to offer good coverage of the coast,
frequently obscured from inland repeaters by the headland.
Anyone ever tried that?

Ant M1FDE

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 30. [ss] Re: Random Comments/Thoughts

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Wed, 06 Nov 2002 13:54:00 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-105902-2002.11.06-14.37.33--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>What are the ARRL "recommended practices" for 802.11?
>Are they posted anywhere?

A few messages ago there were some preliminary drafts... I think.

>The first 3 octets of a MAC address encodes a manufacturer
>identifier. This is useful to help identify misconfigured/buggy/
>misused ethernet devices. No-one should "recommend"
>changing it. It's supposed to be factory-set, and held
>in non-volatile EEPROM. Tools for changing it aren't
>available for most devices. This "misfeature" on open-
>source tools may not be very well tested either; if it
>breaks your WLAN card; you have no-one to cry to.

Most of the newer hardware allows you to configure your MAC incase
of conflicts.  No need to swap or burn new proms.

Here is the example on my webpage:
It is also possible to change your devices MAC address, you could
specify your callsign in hex. For Linux systems 'ifconfig eth1 hw ether
4B:42:39:4D:57:52' will do the trick.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 31. [ss] Re: The Proposed ARRL 802.11b Standard (DRAFT)

From: xlpitlum <multiplx@online.dct.com>
Date: Wed, 6 Nov 2002 23:07:23 -0600 (CST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-105978-2002.11.06-23.50.55--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> We are asking Ham antenna manufactures for horizontally-polarized,
> high-gain, omni-directions antennas for the upper end of the 2.4 GHz band.
> We are finding in our Livingston County, Michigan, HSMM experiments that
> running horizontal instead of vertical polarization does help us stay out of
> the way of the Part 15 users, plus seems to get through the trees better.

  Another (greater) source of interference is from nearby MMDS transmitters,
  which also use horizontal polarization in the 2.1 GHz & 2.5-2.7 GHz bands.

> When it comes to frequencies, what other than Wi-Fi Channel 6 (2437
> MHz...which we jokingly call the "HSMM National Simplex Calling
> Frequency"...HI) could one operate on 2.4 GHz anyway?  Any higher frequency
> and you are out of the band, and any lower you are getting even more into
> other Ham modes and weak signal areas.  It seems to be the only real choice.

  If you assume everyone will be using DSSS systems with an 11-bit Barker code.

---
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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 32. [ss] RE: Random Comments/Thoughts

From: Thomas Sailer <sailer@scs.ch>
Date: 07 Nov 2002 10:30:25 +0100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-106014-2002.11.07-04.14.04--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Wed, 2002-11-06 at 19:24, Jason A. Beens wrote:

> I agree that some tools are free, but not the ones from the industry
> leaders in FPGA.  Xilinx offers thier web based tools for free, but if
> you want to simulate or time something... then you have  to shell out
> cash.

Eh? look again. There are a couple of free (beer) tools.
There's Modelsim XE, which is rather slow. And there is vhdl simili.

Tom

---
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## 33. [ss] RE: ARRL 802.11b Standard Development Support Request

From: "Jeff Edmonson" <w5omr@w5omr.shacknet.nu>
Date: Thu, 7 Nov 2002 07:44:37 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-106036-2002.11.07-08.27.28--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> My search for "ARRL 802.11" found no documents;
> no such thing exists, does it?

No.  Nothing directly relating to ARRL 802.11.

However, the following was found at google...

Searched the web for "802.11b".   Results 1 - 30 of about 496,000. Search took
0.49 seconds

being that 802.11b is the ARRL accepted protocol.
(Seems I read that here, somewhere)

73 = Best Regards,
-=Geoff/W5OMR=-

---
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## 34. [ss] Re: Xilinx tools...

From: Mike Murphree <mike@tropo.org>
Date: Fri, 8 Nov 2002 06:06:12 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-106160-2002.11.08-06.49.49--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Thursday, November 7, 2002, at 10:30  PM, Thomas Sailer wrote:
> On Wed, 2002-11-06 at 19:24, Jason A. Beens wrote:
>
>> I agree that some tools are free, but not the ones from the industry
>> leaders in FPGA.  Xilinx offers thier web based tools for free, but if
>> you want to simulate or time something... then you have  to shell out
>> cash.
>
> Eh? look again. There are a couple of free (beer) tools.
> There's Modelsim XE, which is rather slow. And there is vhdl simili.
>

I have both XE and SE at work.  For the most part, I can't tell that
the XE starter version that you can get for free is any slower than
paid-for XE version.  They say you can use
XE for up to 1 million gates but that must be painful.   I use SE
instead if a license is available.  XE Starter is quite useful if you
can simulate your design in pieces and is
free.

73
Mike W4LNA

---
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## 35. [ss] RE: Random Comments/Thoughts

From: "Steve Stroh" <lists@strohpub.com>
Date: Mon, 11 Nov 2002 12:44:48 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-106587-2002.11.11-15.30.17--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

It is possible to use unmodified cable modems over the air. An interesting
company named BridgeWave worked out the particulars of doing so. A story I
wrote on BridgeWave is online at
http://www.shorecliffcommunications.com/magazine/volume.asp?Vol=10&story=74.
BridgeWave is online at http://www.bridgewave.com/wireless.htm.


Thanks,

Steve

--
Steve Stroh   steve@strohpub.com  425-481-0600



> -----Original Message-----
> From: bounce-ss-24593@lists.tapr.org
> [mailto:bounce-ss-24593@lists.tapr.org]On Behalf Of Jason A. Beens
> Sent: Wednesday, November 06, 2002 10:16
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] RE: Random Comments/Thoughts
>
>
> I had thought about this before...
>
> Cable Modems use two frequency ranges, one for upstream and the other
> for downstream.  In the US the upstream runs from 5-42 MHz and the
> downstream from 60-850...  (there is lattitude on the exact range of the
> downstream.)
>
> Output levels may be as high as 65 dBmv into 75 Ohms.  Pretty good
> output power.
>
> The biggest problem with cable modems is that they are intended for
> wired networks where the channel is gausian in nature.  the equalizers
> used in the system are intended to EQ out fixed impairments.  The
> rapidly changing environment of a wireless or even worse a wireless
> mobile installation will likely be too much for the EQ's to handle.
>



---
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## 36. [ss] RE: Random Comments/Thoughts

From: "Jason A. Beens" <jbeens@sensetechnologies.com>
Date: Mon, 11 Nov 2002 15:26:38 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-106589-2002.11.11-16.05.48--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I agree that you could use an unmodified cable modem over the air if you
built a transport system which is immune to the wireless channel
effects.  The device that Bridgewave has devised sounds clever, but it
is in fact the physical layer of the combined system not the cable
modem.  The cable modem is still not able to cope with the wireless
channel impairments, and that is why a simple transverter was not the
approach Bridgewave undertook.  Here the cable modem is nothing more
than a glorified baseband processor.  The real difficulty in the design
now lies in the coding/modulation system that Bridgewave has produced.
This system provides the over the air noise imunity that the cable modem
requires, but which the cable modem cannot provide on its own.  This
keeps the cable modem from having to deal with the wireless channel
which I believe was the intent of the original post.

BTW, neat article... neat idea...

73
Jason
KB0CDN

---
--
Steve Wrote...

It is possible to use unmodified cable modems over the air. An

interesting
company named BridgeWave worked out the particulars of doing so. A story
I
wrote on BridgeWave is online at
http://www.shorecliffcommunications.com/magazine/volume.asp?Vol=10&story
=74.
BridgeWave is online at http://www.bridgewave.com/wireless.htm.

Thanks,

Steve

--
Steve Stroh  steve@strohpub.com  425-481-0600

---
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## 37. [ss] Re: Random Comments/Thoughts

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Mon, 11 Nov 2002 21:34:12 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-106591-2002.11.11-16.18.40--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Most of the newer hardware allows you to configure your MAC incase
> of conflicts.  No need to swap or burn new proms.

To be pedantic, WLAN card BSSIDs form a separate namespace to
ethernet MAC addresses. But manufacturers universally use the MAC
address numbering system to get unique numbers.

It's the manufacturer's responsibility to give you a unique BSSID.
This only works if nobody mods them.

> Here is the example on my webpage:
> It is also possible to change your devices MAC address, you could
> specify your callsign in hex. For Linux systems 'ifconfig eth1 hw ether
> 4B:42:39:4D:57:52' will do the trick.

AFAIK UK callsigns can be up to ~14 characters.
How about something like USA/GQX0MWT/MM?
Size may depend on national rules. On basic callsigns
you couldn't fit the "/P" for "temporary station".

And what about APs or other OS? Linux supports a limited
range of cards for which more interface info is available; for
those it supports it will /sometimes/ do it.

I've got one FHSS 802.11 card on the table here...

Reading the readme for ray_cs (linux driver),
<<
The hardware address cannot be set using ifconfig yet.
>>
It appears there is a means of doing it, but not permanently
(re-writing the EEPROM). It requires card-reinsertion to
take effect under linux. No use for an AP then, where the
card is bolted down and inaccessible - unless a card
insertion is deemed to occur at boot. That still means
forcing down the network to change operators.

I'm not sure my AP can give me any received hardware
IDs without modifying the firmware. I can't see how I could
practically log them either.

For any proposed ID system, it should be simple
to get "apache" webserver to log the ID of the
requester. Easy.

How do we do it with your ID-in-BSSID method?

This at least involves modding 3 or 4 bits of software,
incl. firmware of an AP... remember that packets could

take different routes during a file transfer, so there may
be several. For a bridged message repeated by an
intermediate AP, you don't get to see the sender's AP
address at all! His PC ethernet card's MAC address is
there  :-) But you recorded the ID of the repeater...
Error! - your log must record the station you contacted
via the repeater.

This is not open-book AX-25, where you see everyone
who touched the packet. Once he's more than one hop
away, the whole effort is wasted. How do you know if
he *is* only one hop away? You don't. You can't know
if it's the sender's ID at all, or who's ID it is.

(The solution here is to mandate "identd".)


 Annoying thing is that 802.1 bridges are transparent
and aren't visible in arp  tables or traceroute. You
can't even ping a bridge. It's hard to get identifiers
out of network equipment. You're not supposed to,
and it shouldn't matter. Internet packet routing should
be arbitrary. We should only care about endpoints;
machines and users. Only other hardware cares
about MAC addresses. Users never see them.

If we apply a bit of logic the important thing to identify
is not the rig but the user, as it is the user that is
licenced, and it's up to him to make sure he's using
the right gear. (We don't make HF rigs ident... the
user idents.) And it should then go to the user
receiving, as in the normal flow of the message. It's
no help having bits of kit sending IDs to other bits
of kit on a hill somewhere from which we can't
extract the ID. It only makes sense to identify the
content; eg that e-mails should have the "from" and
"to" fields identify callsigns, either in the address
itself or in the comment. It seems reasonable that it
should be easy for client-server transactions to
be automatically logged with callsigns by either party.

(Servers have logging as std; clients often don't but
you can use a local proxy to log. They normally
support reverse-DNS and identd lookup which
should be enough to swop callsigns.)

If you're using an AP in bridging mode, I'm supicious
beacons are'nt sent, and the SSID is not needed.
Callsigns in SSID won't work. I need to set up packet
sniffing to understand bridging better. My textbooks
are weak on 802.11 bridging. (Bridges emit bridge
spanning-tree protocol packets to inform other
bridges. To 802.11, add 802.1D  bridges and 802.2
LLC for the whole story. )


Hmm, are we trying to make useful logging easy for
hams here, or trying to prop up some broken laws?
The UK regs seem reasonable - we ident the source
and destination operators, and we ident the content,
not the protocol. And rigs don't ident. Unattended gear
is a special case as the owner keeps a robot which
does his job every 15 minutes. What's the problem?

Please let's not start identing rigs.
We ident licensees.
We license people.
We don't license rigs.

Ant M1FDE

Trying to document anything accurately for linux is a b*
isn't it? In every 10 cases there's always 9 exceptions...
I resist the temptation to write "how I made this with linux"

Reading linux docs can be a b* too, - if it doesn't specify
versions and dates, I've learnt to ignore it. The web is
awash with obsolete dead or dying linux docs.

---
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## 38. [ss] RE: Random Comments/Thoughts

From: "Steve Stroh" <lists@strohpub.com>
Date: Mon, 11 Nov 2002 14:25:00 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-106592-2002.11.11-17.10.14--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The fundamental idea of BridgeWave's approach... which I couldn't much argue with... was that cable modems present a pinnacle of mass production of high-speed RF data communications devices. There are many millions of them, produced cheaply.

BridgeWave's approach was intended to allow cable companies to extend their services into areas where they didn't have wired infrastructure, with no change in their Operational and Support Systems (OSS) - the (BridgeWave) wireless links are pretty much invisible to the cable system.

The "cable" installer would show up, install a cable modem per usual, and instead of pulling cable to the pole, mounted a small dish pointing at the nearest base station.

That was the theory, anyway. I haven't followed up with the company since that article.

The "adapter for cable modem to Amateur Radio frequencies" approach has been contemplated previously. I'm not sure if the effort I previously heard about ever came to fruition.

Thanks,

Steve N8GNJ

--
Steve Stroh  steve@strohpub.com  425-481-0600

> -----Original Message-----
> From: bounce-ss-24593@lists.tapr.org
> [mailto:bounce-ss-24593@lists.tapr.org]On Behalf Of Jason A. Beens
> Sent: Monday, November 11, 2002 13:27
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] RE: Random Comments/Thoughts
>
>
>
> I agree that you could use an unmodified cable modem over the air if you
> built a transport system which is immune to the wireless channel
> effects.  The device that Bridgewave has devised sounds clever, but it
> is in fact the physical layer of the combined system not the cable
> modem.  The cable modem is still not able to cope with the wireless
> channel impairments, and that is why a simple transverter was not the
> approach Bridgewave undertook.  Here the cable modem is nothing more
> than a glorified baseband processor.  The real difficulty in the design
> now lies in the coding/modulation system that Bridgewave has produced.
> This system provides the over the air noise imunity that the cable modem
> requires, but which the cable modem cannot provide on its own.  This
> keeps the cable modem from having to deal with the wireless channel
> which I believe was the intent of the original post.
>
> BTW, neat article... neat idea...
>
> 73
> Jason
> KB0CDN

---
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## 39. [ss] DOCSIS

From: "Hugh Shane" <hughs@tetonvalley.net>
Date: Mon, 11 Nov 2002 15:52:52 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-106593-2002.11.11-17.45.19--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I worked for a time for a company called Advanced Radio Cells (http://www.arcells.com) that makes what amounts to transverters for the 5.3 and 5.8 GHz bands. There was no "transmodulation" done as in the BridgeWave system and we got good bit error rate performance out to 5 miles line-of-sight with QPSK. I hear that they've got 16QAM working now as well.

The main problem with cable modem based systems is that, although the subscriber modems are massed produced and therefore cheap, the head end systems are anything but cheap. As a result a would-be wireless ISP, or whoever, needs a pretty hefty bank roll to deploy service (like $100K for a full blown system). In contrast, 802.11x systems can be deployed much more cheaply. However, 802.11b, according to my sources, deteriorates under loading conditions that present no problem for DOCSIS. There's a paper on the above web site that I co-authored that addresses some of these issues. We didn't break a sweat on the analysis of this problem but we cite some excellent references that did ;)

Anyway, my point (and I do have one) is that it wouldn't be too big a deal to make a DOCSIS-amateur transverter. You need reasonably linear transmitters and low phase noise frequency sources. Otherwise it's straightforward. The real killer is the cost of the head-end gear.

Hugh
N7UAX

## 40. [ss] Re: DOCSIS

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Tue, 12 Nov 2002 11:45:23 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-106662-2002.11.12-06.30.07--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

How would amateurs get hold of cable modem hardware
cheaply?

Set-top boxes are not sold but are loaned to subscribers.
Supplies are controlled by cable companies and aren't
available to experimenters in small quantities. (not
here anyway)

Cable companies don't want people hacking with their
boxes as the usual motive for this is breaking into
pay-per-view.

We could also cite mobile phones as high-rate RF
transceiver-modems that are much more readily
available than cable-STBs. Modern WAP-enabled
phones have as much Flash & RAM & CPU as your
WLAN-AP. Any signs of Linux on a mobile phone yet?

M1FDE

---
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## 41. [ss] Re: DOCSIS

From: Gerry Creager N5JXS <gerry.creager@tamu.edu>
Date: Tue, 12 Nov 2002 07:45:28 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-106670-2002.11.12-08.28.50--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I've seen cable set-top boxes for sale in Best Buy here... that's one
avenue.  There are Ebay opportunities, as well.

gerry

Anthony N Martin wrote:

> How would amateurs get hold of cable modem hardware
> cheaply?
>
> Set-top boxes are not sold but are loaned to subscribers.
> Supplies are controlled by cable companies and aren't
> available to experimenters in small quantities. (not
> here anyway)
>
> Cable companies don't want people hacking with their
> boxes as the usual motive for this is breaking into
> pay-per-view.
>
> We could also cite mobile phones as high-rate RF
> transceiver-modems that are much more readily
> available than cable-STBs. Modern WAP-enabled
> phones have as much Flash & RAM & CPU as your
> WLAN-AP. Any signs of Linux on a mobile phone yet?
>
> M1FDE
>
>
>
>
>
>
> ---
> You are currently subscribed to ss as: gerry.creager@tamu.edu
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org


--
Gerry Creager -- gerry.creager@tamu.edu
Network Engineering, Academy for Advanced Telecommunications
Texas A&M University, College Station, TX
Office: 979.458.4020 FAX: 979.847.8578 Cell: 979.229.5301
Page: 979.228.0173 -or- gcreager@my2way.com


---
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## 42. [ss] Re: DOCSIS

From: Bruno Haineault <bhaineault@bhgvh.com>
Date: Tue, 12 Nov 2002 07:10:12 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-106680-2002.11.12-09.54.04--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Tue, 12 Nov 2002 11:45:23 +0000
"Anthony N Martin" <Anthony.N.Martin@marconi.com> wrote:

>
> How would amateurs get hold of cable modem hardware
> cheaply?
>
> Set-top boxes are not sold but are loaned to subscribers.
> Supplies are controlled by cable companies and aren't
> available to experimenters in small quantities. (not
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> Cable companies don't want people hacking with their
> boxes as the usual motive for this is breaking into
> pay-per-view.
>
> We could also cite mobile phones as high-rate RF
> transceiver-modems that are much more readily
> available than cable-STBs. Modern WAP-enabled
> phones have as much Flash & RAM & CPU as your
> WLAN-AP. Any signs of Linux on a mobile phone yet?
>
> M1FDE

Here in the USA  you can buy set-top cable modems for around US$47
(after the discounts). I bought my Linksys Etherfast cable modem for
just under US$100.
If you connect it to the cable system, then it needs to be configured
and authorized by the MSO. However, nothing stops you from using it
"off-line". I assume that rules in the UK might be different in this

area ;-)

My question is how/why would one want to use one of these as a
transverter?

Bruno, VE2EQ/W6AFK
Oceanside, California

---
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## 43. [ss] RE: DOCSIS

From: "Steve Stroh" <lists@strohpub.com>
Date: Tue, 12 Nov 2002 07:14:15 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-106682-2002.11.12-09.59.39--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The problem with extrapolating from ARCi's equipment is that the base
equipment was from Vyyo, whose technology wasn't "pure" DOCSIS but rather
what they called DOCSIS+. For DOCSIS+, Vyyo modified DOCSIS for use on RF.
Vyyo was only interested in selling to the MMDS (2.5 - 2.7 GHz band) market,
and ARCi got a license to adapt Vyyo's technology to be used on the
license-exempt 5.8 GHz band. Since ARCi and Vyyo equipment is proprietary,
it's not directly applicable to the amazing cost points and availability of
DOCSIS-based cable modems.

To answer some questions about availability, DOCSIS (v1.1 if memory serves)
cable modems are now on sale at about $100.00. I've seen them at CompUSA and
other retailers. It's perfectly legal to own one even if you have no
intention of using it for its intended use.

Thanks,

Steve

--
Steve Stroh   steve@strohpub.com  425-481-0600
Editor - Focus on Broadband Wireless Internet Access newsletter
http://www.strohpub.com/focus

  -----Original Message-----
  From: bounce-ss-24593@lists.tapr.org
[mailto:bounce-ss-24593@lists.tapr.org]On Behalf Of Hugh Shane
  Sent: Monday, November 11, 2002 14:53
  To: TAPR Spread Spectrum Special Interest Group
  Subject: [ss] DOCSIS

  I worked for a time for a company called Advanced Radio Cells
(http://www.arcells.com) that makes
  what amounts to transverters for the 5.3 and 5.8 GHz bands. There was no
"transmodulation" done
  as in the BridgeWave system and we got good bit error rate performance out
to 5 miles line-of-sight
  with QPSK. I hear that they've got 16QAM working now as well.

  The main problem with cable modem based systems is that, although the
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  massed produced and therefore cheap, the head end systems are anything but
cheap. As a result
  a would-be wireless ISP, or whoever, needs a pretty hefty bank roll to
deploy service (like $100K for
  a full blown system). In contrast, 802.11x systems can be deployed much
more cheaply. However,
  802.11b, according to my sources, deteriorates under loading conditions
that present no problem for
  DOCSIS. There's a paper on the above web site that I co-authored that
addresses some of these issues.
  We didn't break a sweat on the analysis of this problem but we cite some
excellent references that did ;)

  Anyway, my point (and I do have one) is that it wouldn't be too big a deal
to make a DOCSIS-amateur
  transverter. You need reasonably linear transmitters and low phase noise
frequency sources. Otherwise

it's straightforward. The real killer is the cost of the head-end gear.

Hugh
N7UAX

## 44. [ss] Re: DOCSIS

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Tue, 12 Nov 2002 18:25:59 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-106703-2002.11.12-13.10.38--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Here in the USA  you can buy set-top cable modems for around US$47
> (after the discounts).

That's cheap. What speed are they?

Now why would you want to use a pair of those, with a pair of
transverters, to 23cms, presumably, that someone would have to
design & make? How would that compare with 802.11 for a point-
to-point link?

Would they require a frequency-division-duplex link?
Or could they work time-division-duplex on one frequency?
(never looked into DOCSIS, but up and down on cable
networks are always different frequency bands)

(I'm assuming here that we can bridge the difference in
uplink and downlink frequencies in the transverter, and
fix protocol issues in the firmware so that a pair of
cable modems can talk to each other.)

> I assume that rules in the UK might be different in this
> area ;-)

There's no laws that stop you owning or dickering with a
cable modem, or using it for alterior purposes. The thing
isn't supposed to be a radio transmitter at all. Problems
might occur if you tried to do commercial imports getting
the devices CE approved. Just take the cases off and
specify it as a component module for a ham kit.

There's just no demand for cable modems to be on the
consumer market in europe as cable companies supply
STBs and modems with the service rental. There's no law
against it...

This was also the case with ADSL, but many ISPs now offer
lower rates if you supply your own DSL modem. Consumer
DSL modems and DSL firewall/NAT/routers are becoming cheap.

I'd query whether the DOCSIS is the standard in use in
Europe. No'ones connecting it to the line so who cares?

If you start reverse-engineering pay-TV STBs, then there
*are* EU laws that could get you, but a modem that does
not decrypt pay-TV is OK.

M1FDE

---
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## 45. [ss] Re: DOCSIS

From: Gerry Creager N5JXS <gerry.creager@tamu.edu>
Date: Tue, 12 Nov 2002 22:59:23 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-106748-2002.11.12-23.42.43--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I need to engage one of my grad students in this discussion, and see if
he's got any thoughts.  I'll brief him and get him to join the list if

he thinks he can offer anything.

gerry

Anthony N Martin wrote:
>>Here in the USA  you can buy set-top cable modems for around US$47
>>(after the discounts).
>
>
> That's cheap. What speed are they?
>
> Now why would you want to use a pair of those, with a pair of
> transverters, to 23cms, presumably, that someone would have to
> design & make? How would that compare with 802.11 for a point-
> to-point link?
>
> Would they require a frequency-division-duplex link?
> Or could they work time-division-duplex on one frequency?
> (never looked into DOCSIS, but up and down on cable
> networks are always different frequency bands)
>
> (I'm assuming here that we can bridge the difference in
> uplink and downlink frequencies in the transverter, and
> fix protocol issues in the firmware so that a pair of
> cable modems can talk to each other.)
>
>
>>I assume that rules in the UK might be different in this
>>area ;-)
>
>
> There's no laws that stop you owning or dickering with a
> cable modem, or using it for alterior purposes. The thing
> isn't supposed to be a radio transmitter at all. Problems
> might occur if you tried to do commercial imports getting
> the devices CE approved. Just take the cases off and
> specify it as a component module for a ham kit.
>
> There's just no demand for cable modems to be on the
> consumer market in europe as cable companies supply
> STBs and modems with the service rental. There's no law
> against it...
>
> This was also the case with ADSL, but many ISPs now offer
> lower rates if you supply your own DSL modem. Consumer
> DSL modems and DSL firewall/NAT/routers are becoming cheap.
>
> I'd query whether the DOCSIS is the standard in use in
> Europe. No'ones connecting it to the line so who cares?
>
> If you start reverse-engineering pay-TV STBs, then there
> *are* EU laws that could get you, but a modem that does
> not decrypt pay-TV is OK.
>
> M1FDE
>
>
>
>
>
>
>
> ---
> You are currently subscribed to ss as: gerry.creager@tamu.edu
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org


--
Gerry Creager -- gerry.creager@tamu.edu
Network Engineering, Academy for Advanced Telecommunications
Texas A&M University, College Station, TX
Office: 979.458.4020 FAX: 979.847.8578 Cell: 979.229.5301
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---
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## 46. [ss] 72 mile 802.11b link

From: "Stephen Nichols" <sgnichols@mindspring.com>
Date: Wed, 13 Nov 2002 11:41:35 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-106845-2002.11.13-13.25.14--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

http://www.computerworld.com/mobiletopics/mobile/story/0,10801,75830,00.html

---
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## 47. [ss] Re: 72 mile 802.11b link

From: Brett Glass <brett@lariat.org>
Date: Wed, 13 Nov 2002 21:21:52 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-106893-2002.11.13-23.05.50--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Ironically, this link -- as described -- is illegal. To radiate 1 watt
on the 2.4 GHz band through ultra-high gain antennas such as the ones used
in this link would create an EIRP that's above the FCC limits for Part 15
operation.

--Brett

At 11:41 AM 11/13/2002, Stephen Nichols wrote:

>http://www.computerworld.com/mobiletopics/mobile/story/0,10801,75830,00.html
>
>---
>You are currently subscribed to ss as: BRETT@LARIAT.ORG
>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
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## 48. [ss] Re: 72 mile 802.11b link

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Thu, 14 Nov 2002 15:32:33 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-106894-2002.11.13-23.16.28--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Ironically, this link -- as described -- is illegal. To radiate 1 watt
> on the 2.4 GHz band through ultra-high gain antennas such as
> the ones used
> in this link would create an EIRP that's above the FCC limits
> for Part 15
> operation.

Certainly illegal down here too.  The antennas alone would put you close to
the legal limit, without any amplification (our limit is 4W EIRP over most
of the band and 200 mW in the top 20 MHz).  I suspect US limits are similar.

---
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Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.417 / Virus Database: 233 - Release Date: 8/11/2002

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## 49. [ss] Re: 72 mile 802.11b link

From: Gerry Creager N5JXS <gerry.creager@tamu.edu>
Date: Wed, 13 Nov 2002 22:56:55 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-106895-2002.11.13-23.40.13--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Knowing several of the SDSC folks, I'm pretty sure that, if they're in technical violation of the EIRP rule, they also have the accompanying STA. I think the point here was the fact that they're going 72 miles, across water, beyond the visible and radio horizons.

73, gerry

Brett Glass wrote:
> Ironically, this link -- as described -- is illegal. To radiate 1 watt
> on the 2.4 GHz band through ultra-high gain antennas such as the ones used
> in this link would create an EIRP that's above the FCC limits for Part 15
> operation.
>
> --Brett
>
> At 11:41 AM 11/13/2002, Stephen Nichols wrote:
>
>
>>http://www.computerworld.com/mobiletopics/mobile/story/0,10801,75830,00.html
>>
>>---
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>
>
>
> ---
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Texas A&M University, College Station, TX
Office: 979.458.4020 FAX: 979.847.8578 Cell: 979.229.5301
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## 50. [ss] Re: 72 mile 802.11b link

From: Jeff King <jeff@aerodata.net>
Date: Thu, 14 Nov 2002 00:02:49 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-106896-2002.11.13-23.46.55--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

250mw into a 24dBi gain antenna in their configuration would be legal (under the part 15 PtP rules). Likely would have worked also. Ashame they had to go above them... seems they where also getting NFS funding and Proxim had a visible position here. I'm seeing this talked about on quite a few newsgroups so alot of egg on the face for them.

Still... cool it worked and under part 97 would have been entirely legal.

--
Jeff King, jeff@aerodata.net on 11/13/2002

On Wed, 13 Nov 2002 21:21:52 -0700, Brett Glass wrote:
>Ironically, this link -- as described -- is illegal. To radiate 1
>watt
>on the 2.4 GHz band through ultra-high gain antennas such as the
>ones used
>in this link would create an EIRP that's above the FCC limits for
>Part 15
>operation.
>

>--Brett
>
>At 11:41 AM 11/13/2002, Stephen Nichols wrote:
>
>>http://www.computerworld.com/mobiletopics/mobile/story/0,10801,75830
>>,00.html
>>
>>---
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>
>
>---
>You are currently subscribed to ss as: jeff@aerodata.net
>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
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## 51. [ss] Re: 72 mile 802.11b link

From: Stewart Teaze <horseshoe7@yahoo.com>
Date: Wed, 13 Nov 2002 21:10:35 -0800 (PST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-106897-2002.11.13-23.54.28--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

No, this joker is raising the noise floor all over the
La Jolla area (with the return link from San Clemente)
with this setup.  La Jolla(with UCSD) is one of the
most densest areas of 2.4Ghz 802.11 activity in the
world, and this guy is raising the noise floor there.

- Stewart

--- Gerry Creager N5JXS <gerry.creager@tamu.edu>
wrote:
> Knowing several of the SDSC folks, I'm pretty sure
> that, if they're in
> technical violation of the EIRP rule, they also have
> the accompanying
> STA.  I think the point here was the fact that
> they're going 72 miles,
> across water, beyond the visible and radio horizons.
>
> 73, gerry
>
> Brett Glass wrote:
> > Ironically, this link -- as described -- is
> illegal. To radiate 1 watt
> > on the 2.4 GHz band through ultra-high gain
> antennas such as the ones used
> > in this link would create an EIRP that's above the
> FCC limits for Part 15
> > operation.
> >
> > --Brett
> >
> > At 11:41 AM 11/13/2002, Stephen Nichols wrote:
> >
> >
>
>>http://www.computerworld.com/mobiletopics/mobile/story/0,10801,75830,00.html
> >>
> >>---
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> > ---
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> Network Engineering, Academy for Advanced
> Telecommunications
> Texas A&M University, College Station, TX
> Office: 979.458.4020 FAX: 979.847.8578 Cell:
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> Page: 979.228.0173 -or- gcreager@my2way.com
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## 52. [ss] Re: 72 mile 802.11b link

From: Stewart Teaze <horseshoe7@yahoo.com>
Date: Wed, 13 Nov 2002 21:16:31 -0800 (PST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-106918-2002.11.14-00.00.36--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

--- Gerry Creager N5JXS <gerry.creager@tamu.edu>
wrote:
> Knowing several of the SDSC folks, I'm pretty sure
> that, if they're in
> technical violation of the EIRP rule, they also have
> the accompanying
> STA.

Then what IDIOT at the FCC issued the STA?!

La Jolla(UCSD) is a VERY dense area of 2.4Ghz 802.11
activity, and the return link would certainly have
raised the noise floor in this important area of
802.11 experimentation.

What a bunch of jokers.

- Stewart

_____
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## 53. [ss] Re: 72 mile 802.11b link

From: Stewart Teaze <horseshoe7@yahoo.com>
Date: Wed, 13 Nov 2002 21:30:00 -0800 (PST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-106919-2002.11.14-00.13.59--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

You know something, it isn't so much the link from San
Clemente that ticks me off(as I suppose that would
require a dish on the La Jolla end to even detect),
but the other illegal links they've strung up all over
San Diego County(where I live), according to this
article.  Maybe they've been careful to choose route

that wouldn't interfere with anyone in-between... but
I really doubt it.  Given their obvious ignorance of
the rules, I must assume the haven't thought about
others, just themselves.

- Stewart


--- Gerry Creager N5JXS <gerry.creager@tamu.edu>
wrote:
> Knowing several of the SDSC folks, I'm pretty sure
> that, if they're in
> technical violation of the EIRP rule, they also have
> the accompanying
> STA.  I think the point here was the fact that
> they're going 72 miles,
> across water, beyond the visible and radio horizons.
>
> 73, gerry
>
>

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## 54. [ss] Re: 72 mile 802.11b link

From: Gerry Creager N5JXS <gerry.creager@tamu.edu>
Date: Wed, 13 Nov 2002 23:46:47 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-106920-2002.11.14-00.30.15--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Really surprises me.  Most of the links I saw last time I was on top of
the building were licensed 5 GHz and higher links.  I didn't hear a
thing 'bout this one THIS trip... but 2 years ago they were trying hard
to figure out how to make the hop.

It could be that they're insensitive to the rest of the community, but
that's not been my take on them in the past.

73, gerry n5jxs

Stewart Teaze wrote:
> You know something, it isn't so much the link from San
> Clemente that ticks me off(as I suppose that would
> require a dish on the La Jolla end to even detect),
> but the other illegal links they've strung up all over
> San Diego County(where I live), according to this
> article.  Maybe they've been careful to choose route
> that wouldn't interfere with anyone in-between... but
> I really doubt it.  Given their obvious ignorance of
> the rules, I must assume the haven't thought about
> others, just themselves.
>
> - Stewart
>
>
> --- Gerry Creager N5JXS <gerry.creager@tamu.edu>
> wrote:
>
>>Knowing several of the SDSC folks, I'm pretty sure
>>that, if they're in
>>technical violation of the EIRP rule, they also have
>>the accompanying
>>STA.  I think the point here was the fact that
>>they're going 72 miles,
>>across water, beyond the visible and radio horizons.
>>
>>73, gerry
>>
>>
>
>

> _____
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## 55. [ss] Re: 72 mile 802.11b link

From: Stewart Teaze <horseshoe7@yahoo.com>
Date: Wed, 13 Nov 2002 22:10:53 -0800 (PST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-106921-2002.11.14-00.56.40--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Check out this excerpt:

********
Low costs, ease of installation and no hassles with
protracted FCC license proceedings are the hallmarks
of HPWREN, which uses equipment operating in both the
2.4- and 5-GHz bands to provide broadband data service
to scientific installations, schools and Indian
reservations scattered throughout 10,000 square miles
of rural San Diego and southern Riverside counties in
California
*******

Arghh! I LIVE in Southern Riverside County, and work
in San Diego County.  I want to know what these HPWREN
guys have been up to - because it looks like they've
apparently been up to no good.  The FCC is constantly
on the public's case about exceeding the 802.11 rules
in trying to build a public network, and now look -
the NSF is doing the exact same thing, right under all
our noses.  If the FCC isn't going to do anything
about this - then they shouldn't do anything about
public installations that are done in a
non-interfering way... How is their science any
different than our science?

- Stewart

--- Gerry Creager N5JXS <gerry.creager@tamu.edu>
wrote:
> Really surprises me.  Most of the links I saw last
> time I was on top of
> the building were licensed 5 GHz and higher links.
> I didn't hear a
> thing 'bout this one THIS trip... but 2 years ago
> they were trying hard
> to figure out how to make the hop.
>
> It could be that they're insensitive to the rest of
> the community, but
> that's not been my take on them in the past.
>
> 73, gerry n5jxs
>
> Stewart Teaze wrote:
> > You know something, it isn't so much the link from
> San
> > Clemente that ticks me off(as I suppose that would
> > require a dish on the La Jolla end to even
> detect),

> > but the other illegal links they've strung up all
> over
> > San Diego County(where I live), according to this
> > article.  Maybe they've been careful to choose
> route
> > that wouldn't interfere with anyone in-between...
> but
> > I really doubt it.  Given their obvious ignorance
> of
> > the rules, I must assume the haven't thought about
> > others, just themselves.
> >
> > - Stewart
> >
> >
> > --- Gerry Creager N5JXS <gerry.creager@tamu.edu>
> > wrote:
> >
> >>Knowing several of the SDSC folks, I'm pretty sure
> >>that, if they're in
> >>technical violation of the EIRP rule, they also
> have
> >>the accompanying
> >>STA.  I think the point here was the fact that
> >>they're going 72 miles,
> >>across water, beyond the visible and radio
> horizons.
> >>
> >>73, gerry
> >>
> >>
> >
> >
> > _____
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## 56. [ss] Re: 72 mile 802.11b link

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Thu, 14 Nov 2002 16:44:58 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-106926-2002.11.14-01.14.28--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> You know something, it isn't so much the link from San
> Clemente that ticks me off(as I suppose that would
> require a dish on the La Jolla end to even detect),
> but the other illegal links they've strung up all over
> San Diego County(where I live), according to this
> article.  Maybe they've been careful to choose route
> that wouldn't interfere with anyone in-between... but
> I really doubt it.  Given their obvious ignorance of
> the rules, I must assume the haven't thought about
> others, just themselves.

This brings about an interesting irony.  We recently had an inquiry into broadband here, so the Government could look at the issues.  One thing that was noticed was that some commercial entities suggested that some hobbyist groups were ignorant or didn't care about the regulations.  In the main, that's not the case, and legal requirements (both radio and telco) are regularly discussed amone hobbyist wireless groups here.

Some commercial operators apparently have been caught doing the wrong thing...

---
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## 57. [ss] Re: 72 mile 802.11b link

From: "Jeff Edmonson" <w5omr@w5omr.shacknet.nu>
Date: Thu, 14 Nov 2002 04:29:08 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-106934-2002.11.14-05.13.42--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Would someone please tell me, simply -
*is* the link to San Clemente' being
done - or is it a hoax?

--
73 = Best Regards,
-=Geoff/W5OMR=-

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 58. [ss] Re: 72 mile 802.11b link

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Thu, 14 Nov 2002 16:17:21 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-106935-2002.11.14-05.15.02--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Still... cool it worked and under part 97 would have been
> entirely legal.

Digital repeater links anyone? ;)

---
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Version: 6.0.417 / Virus Database: 233 - Release Date: 8/11/2002

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## 59. [ss] Part 15 a very bad idea

From: Robert McGwier <rwmcgwier@comcast.net>
Date: Thu, 14 Nov 2002 09:57:54 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: kabernat@fcc.gov, mcopps@fcc.gov, kjmweb@fcc.gov
Message-ID: <LYR6751-106951-2002.11.14-09.41.50--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Commissioners:

Here is a clear violation of Part 15 being bragged about
in a press release.  Part 15 was a bad idea from its
inception since it was inevitable that the "CB mentality"
of "anything goes" would eventually creep in.  I am sure
that no one intended for Part 15 devices to have hundreds
of watts EIRP.

http://www.computerworld.com/mobiletopics/mobile/story/0,10801,75830,00.html

PLEASE hand this to your enforcement division for immediate
action.

Dr. Robert McGwier
IDA/CCR-P

---
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## 60. [ss] Re: Part 15 a very bad idea

From: Jochen Feldhaar <feldhaar@yahoo.com>
Date: Thu, 14 Nov 2002 07:12:47 -0800 (PST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-106953-2002.11.14-09.56.39--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello all,

that exactly was my first thought when I read this
article. Not to exceed 1 Watt of _power_ and then
connect a super high gain directional antenna will not
alter the TX power, but of course the EIRP will soar!
In Germany we are experiencing even more severe new
regulations regarding RF emissions as HAMs, and this
operating practice would very probably lead to severe
reprimands by the authorities involved!

Best 73,

Jochen Feldhaar DH6FAZ

--- Robert McGwier <rwmcgwier@comcast.net> wrote:
> Commissioners:
>
> Here is a clear violation of Part 15 being bragged
> about

> in a press release.  Part 15 was a bad idea from its
> inception since it was inevitable that the "CB
> mentality"
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http://www.computerworld.com/mobiletopics/mobile/story/0,10801,75830,00.html
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>
> PLEASE hand this to your enforcement division for
> immediate
> action.
>
> Dr. Robert McGwier
> IDA/CCR-P
>
>
>
>
> ---
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>


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## 61. [ss] Re: Part 15 a very bad idea

From: Jeff King <jeff@aerodata.net>
Date: Thu, 14 Nov 2002 11:17:56 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-106966-2002.11.14-11.02.09--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Your kidding me, right? You didn't actually send this, did you? While the
core issue is worthy of a complaint, your opinions have no place, dilute your
message and are just dead wrong. Here is why:


On Thu, 14 Nov 2002 09:57:54 -0500, Robert McGwier wrote:
>Commissioners:
>
>Here is a clear violation of Part 15 being bragged about
>in a press release.  Part 15 was a bad idea from its
>inception since it was inevitable that the "CB mentality"
>of "anything goes" would eventually creep in.

Part 15 *is* a good idea. It has provided products to consumers and industry
that have generated billions of dollars and very innovative devices. And any
rule violation(s) are not that widespread, and most certainly other services
have similar problems that are best addressed by enforcement, and not banning
the service.

Oh, and "CB radio" is under part 95.

>I am sure
>that no one intended for Part 15 devices to have hundreds
>of watts EIRP.

But that is exactly what the rules say you can run and some manufacturers are
making legal certified devices that can do this. The point to point rules for
part 15 spread spectrum, in theory, allow a unlimited EIRP limit, but the
practical limit is about 400 watts.

>http://www.computerworld.com/mobiletopics/mobile/story/0,10801,75830,
>00.html
>
>
>PLEASE hand this to your enforcement division for immediate
>action.

This would have been a good complaint. Too bad you had to put the crusader
stuff in it.

-Jeff

---
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## 62. [ss] Re: Part 15 a very bad idea

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Thu, 14 Nov 2002 11:15:14 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-106972-2002.11.14-11.59.08--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Thu, 14 Nov 2002 09:57:54 -0500, Robert McGwier wrote:
>Commissioners:
>
>Here is a clear violation of Part 15 being bragged about
>in a press release. Part 15 was a bad idea from its
>inception since it was inevitable that the "CB mentality"
>of "anything goes" would eventually creep in.

I see your point.  As you say here is a press release bragging about something
illegal.  I can't disagree that Part 15 is needed.  I guess what bugs me is the
higher allowed PEP/field stength and ERP limits for this type of stuff in the
ISM bands.  I doubt Part 15 was intended to be for this type of experimentation.
But Sec. 15.23 makes you wonder sometimes.  Amateur radio is supposed to be
about experimentation.  Yet Part 15 has to be flexible enough to cover all the
Part 15 devices and allow the end user to make miror repairs.

I know it has been said before, maybe unlicenesed wireless ethernet use
should be
governed by a different part, such as Part 95.  I have no problem with FRS/CB.
This is because the limits on experimentation are at least somewhat defined.
For
example I view FRS as a good thing.  (1/2 watt with integrated antennas)  There
is incentive to some degree if you want more flexibility (power and
configurations)
to look into a licensed service such as ham radio or GMRS.


>I am sure that no one intended for Part 15 devices to have hundreds
>of watts EIRP.

http://www.qsl.net/kb9mwr/projects/wireless/pwr.html
I don't really beleive this.  The FCC should know what they were doing when they
came up with the present Part 15 wording.  However, maybe they didn't expect
people to be able pull off such lengthy path-links.

---
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## 63. [ss] Re: Part 15 a very bad idea

From: dubose@texas.net
Date: Thu, 14 Nov 2002 11:59:49 US/Central
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: rl@wells.com, dogan@perese.com, thomas@uthscsa.edu, n5jak@arrl.net
Message-ID: <LYR6751-106976-2002.11.14-12.43.46--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have a slightly different take on the issue; however, agree that this
"operation" seems to show an intent to disregard FCC Part 15 Regulations if not
in fact that they do violate the Regulations.

There is MUCH pressure being put on the FCC and Congress, by industry and
community wireless associations, to deregulate Part 15 further and to allow
higher EIRPs.  I understand that some community wireless associations are
asking for primary and exclusive use of 2.4 GHz for wireless digital operation.
This is very much a threat to the amateur radio existence on the band.

The above alone makes it imperative that we all work together to get
operational on 2.4 GHz under Part 97 rules ASAP.  I am hopeful that San Antonio
will have a network operational by the first of the year even if it's with 100
mw devices.

And let me push here for the use of SMTP and H323 (NetMeeting) voice as the
first uses of 802.11b operation under Part 97 rules.

We REALLY need a bi-directional amplifier that will take 50-200mw and boost it
up to 2-3 watts and an horizontally polarized, omni-directional antenna that
hams can build that has 8-9+ dB gain.  Anyone with solid designs that you have
built and are working, please let the SIG know about them.

Almost any unregulated/under regulated RF transmissions that are allowed by FCC
Rules are going to be broken.  Some truckers have discovered FRS and GMRS and
are running GMRS without a license also they have FRM radios with external
antennas and 5 watt amplifiers and 9 dB gain antennas.

Walt/K5YFW

> On Thu, 14 Nov 2002 09:57:54 -0500, Robert McGwier wrote:
> >Commissioners:
> >
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> >of "anything goes" would eventually creep in.
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something
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> higher allowed PEP/field stength and ERP limits for this type of stuff in the
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> But Sec. 15.23 makes you wonder sometimes.  Amateur radio is supposed to be
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> I know it has been said before, maybe unlicenesed wireless ethernet use
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> This is because the limits on experimentation are at least somewhat defined.
> For
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There
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> to look into a licensed service such as ham radio or GMRS.
>
>
> >I am sure that no one intended for Part 15 devices to have hundreds
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>
> http://www.qsl.net/kb9mwr/projects/wireless/pwr.html
> I don't really beleive this.  The FCC should know what they were doing when
they
> came up with the present Part 15 wording.  However, maybe they didn't expect
> people to be able pull off such lengthy path-links.
>
>
>
>
>
> ---
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>

---
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## 64. [ss] Re: Part 15 a very bad idea

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Thu, 14 Nov 2002 12:36:19 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-106979-2002.11.14-13.20.17--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>We REALLY need a bi-directional amplifier that will take 50-200mw
>and boost it up to 2-3 watts and an horizontally polarized, omni-
>directional antenna that hams can build that has 8-9+ dB gain.
>Anyone with solid designs that you have built and are working,
>please let the SIG know about them.

Before we start calling the kettle black, lets keep in mind we currently
have a 1 watt PEP APC rule (even if it sucks) to deal with.
http://www.qsl.net/kb9mwr/projects/wireless/part97.html#97.311d

I don't know if you saw either of these before:

Cheap Bi-directional 2.4 GHz amplifier kits from RF Linx:
http://www.rflinx.com/2.4GHz%20Bi-Directional%20PCB.htm

GBPPR Amplifier designs:
http://www.qsl.net/n9zia/wireless/

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## 65. [ss] Re: Part 15 a very bad idea

From: Stewart Teaze <horseshoe7@yahoo.com>
Date: Thu, 14 Nov 2002 11:09:06 -0800 (PST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: kabernat@fcc.gov, mcopps@fcc.gov, kjmweb@fcc.gov
Message-ID: <LYR6751-106980-2002.11.14-13.52.59--lyris.ss#tapr.org@lists.tapr.org>
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--- Robert McGwier <rwmcgwier@comcast.net> wrote:
> Commissioners:
>
> Here is a clear violation of Part 15 being bragged
> about in a press release.  Part 15 was a bad idea
from its inception since it was inevitable that the
"CB
 mentality" of "anything goes" would eventually creep
in.  I am sure that no one intended for Part 15
devices to have hundreds of watts EIRP.

Give me a break - this WASN'T the public... these
people were backed and funded by the US GOVERNMENT.

The NSF & HPWREN shouldn't be allowed to get away with
something the public can't get away with.

Part 15 is a GREAT idea... what is bad are violations
of the rules - ESPECIALLY when the Government is the
one backing/funding the violators.

- Stewart Teaze

_____
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## 66. [ss] Spread spectrum, Part 15, and narrowband services

From: Jake Brodsky <frussle@erols.com>
Date: Thu, 14 Nov 2002 14:12:40 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-106981-2002.11.14-13.56.34--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

/* delurking */

Folks, 802.11b is here to stay. You can get angry at the FCC for allowing it in the first place, but please understand that their choices weren't all that great to begin with.

The forces behind this "wireless" revolution in computer networking are very powerful, flush with money, and organized. The problem with advancing home connectivity is the "last mile." Everyone hates to pull wire. They're not even particularly fond of pulling fiber. It's infrastructure and it costs. On the other hand, 802.11b is practically free. It's a lazy solution to a thorny problem.

There is no use explaining to the networking weenies that spread spectrum might interfere with someone else's legitimate operations. The sales people told them otherwise and they really don't care to listen to anything different. Many of these ignoramuses believe that the ISM band is exclusively theirs and that these radios will always work. They've never know what real FCC enforcement action looks like because they've never seen it in their lifetimes. The radio spectrum, as far as these people are concerned, is free for the taking.

I realize that ham radio operations are suffering here. Umm, folks, this is a hobby. Even if we get some sort of recognition of preemption over part 15 devices, the degree of hate and discontent that would ensue will guarantee that something uncivil and/or outrageous legal machinations will happen. We need to choose our battles and this is one that I don't think we can win.

Personally, it doesn't bother me that someone is running a high EIRP. Yes, they do squeeze a lot of power toward one direction, but the other directions don't have to hear this traffic. I call that a good thing. This is called putting an RF signal where it belongs. The only thing I can ask for is some focus toward better link power management.

The only way we can defend or reclaim our bands is to educate the public. Everyone goes gaga over all these things that policy wonks who can barely spell "information theory" spout about frequency reuse and spread spectrum --but nobody ever talks about performance issues such as the near/far problem, dealing with IMD, ISI, or even sequency management. Add to this mix the need for priority uses such as police, air traffic, fire, medical, satellite up and downlinks, and other such things, and maybe some of these folks might actually realize that "wireless" is the same damned thing as "radio."

Spread spectrum technology has the potential to revolutionize microwave band use. Instead of rehashing someone else's technology (such as 802.11b), let's show the world how we can do it better.

/* flame suite on */

Jake Brodsky, mailto:frussle@erols.com
"Nearly fifty percent of all graduates came from
the bottom half of the class."

---
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## 67. [ss] Re: Spread spectrum, Part 15, and narrowband services

From: dubose@texas.net
Date: Thu, 14 Nov 2002 13:44:11 US/Central
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-106983-2002.11.14-14.28.02--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

<stuff deleted>
>
> The only way we can defend or reclaim our bands is to educate the
> public. Everyone goes gaga over all these things that policy wonks

> who can barely spell "information theory" spout about frequency reuse
> and spread spectrum --but nobody ever talks about performance issues
> such as the near/far problem, dealing with IMD, ISI, or even sequency
> management.  Add to this mix the need for priority uses such as
> police, air traffic, fire, medical, satellite up and downlinks, and
> other such things, and maybe some of these folks might actually
> realize that "wireless" is the same damned thing as "radio."

Ah ha, you're on to it.

IF we can get some really cool, high power networks up and then put them
display them at various locations...like malls in front of a computer store or
Radio Shack, at entrances to the mall, then the public will start seeing what
hams can do that they can't do and want to join.

Example:
Back when CB was new, some hams her in San Antonio put on some 10M FM base
stations and mobiles.  You could talk 30-40 miles mobile to base and out 50-60
miles base to base.  And the signal was really good.  I know that from one
"showing", a rather large display at a mall, we had 20-25 individuals get their
tickets.  Not bad for one day at the mall.

I think we can do the same thing with 802.11b under Part 97.

Walt/K5YFW

---
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## 68. [ss] Re: Part 15 a very bad idea

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Fri, 15 Nov 2002 08:56:56 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-106987-2002.11.14-16.40.59--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> >I am sure that no one intended for Part 15 devices to have hundreds
> >of watts EIRP.
>
> http://www.qsl.net/kb9mwr/projects/wireless/pwr.html
> I don't really beleive this.  The FCC should know what they
> were doing when they
> came up with the present Part 15 wording.  However, maybe
> they didn't expect
> people to be able pull off such lengthy path-links.

I read these comments with interest.  I don't have any idea what the US Part
15 regs actually say, but our equivalent in VK, the Class Licence (Spread
Spectrum) is quite clear on EIRP limits, which are set at 4W EIRP for
2400-2463 MHz and 0.2W for 2.463-2.4835 MHz.  There is currently a proposal
to make the limit 4W EIRP across the whole band.

Our limits are both practical and sensible, IMHO, and people are still
managing legal links into the low tens of miles range.

Of curse, reclassify a WiFi card as an amateur station under the amateur LCD
and we're allowed to run 120W RF power (and no requirement for automatic
power control).  Only trouble there would be finding an affordable amplifier
to run that kind of power... :)

---
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Version: 6.0.417 / Virus Database: 233 - Release Date: 8/11/2002

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## 69. [ss] Re: Part 15 a very bad idea

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Fri, 15 Nov 2002 09:07:11 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-106989-2002.11.14-16.51.10--lyris.ss#tapr.org@lists.tapr.org>
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> There is MUCH pressure being put on the FCC and Congress, by
> industry and
> community wireless associations, to deregulate Part 15
> further and to allow
> higher EIRPs.  I understand that some community wireless
> associations are
> asking for primary and exclusive use of 2.4 GHz for wireless
> digital operation.
> This is very much a threat to the amateur radio existence on
> the band.

Here, it's commercial operators looking for more power in rural areas
(actually, they do have some good arguments - low population density and
long distances).  The community groups are happy to work within the power
limits - they have a lot in common with hams in the way they work.

> The above alone makes it imperative that we all work together to get
> operational on 2.4 GHz under Part 97 rules ASAP.  I am
> hopeful that San Antonio
> will have a network operational by the first of the year even
> if it's with 100
> mw devices.

That is indeed a good idea.  Get something on air, however that may be
possible, and worry about beefing it up later.
>
> And let me push here for the use of SMTP and H323
> (NetMeeting) voice as the
> first uses of 802.11b operation under Part 97 rules.

Well, I'd go for VoIP.  I dunno about H323, it can be a bit ugly, especially
if you have to stick NAT in to make IPs go around.  I'd experiment with a
variety of protocols.  Our VoIP links on the Internet (IRLP, Echolink, etc)
actually don't use H323, but instead use variations on the RTP over UDP
theme in most cases, and one app (eQSO) actually uses TCP.  SMTP is also
useful, and it's worth carrying some tunneled AX.25 traffic as well, since
this sort of link will kick the traditional packet backbone to death. :)

> We REALLY need a bi-directional amplifier that will take
> 50-200mw and boost it
> up to 2-3 watts and an horizontally polarized,
> omni-directional antenna that
> hams can build that has 8-9+ dB gain.  Anyone with solid
> designs that you have
> built and are working, please let the SIG know about them.

One of the guys in the local community wireless group has been building
omnis (and he's not even a ham), and seems to be having good results.  I
could try and get hold of the design he's using and people here could try
building and evaluating them.

> Almost any unregulated/under regulated RF transmissions that
> are allowed by FCC
> Rules are going to be broken.  Some truckers have discovered
> FRS and GMRS and
> are running GMRS without a license also they have FRM radios
> with external
> antennas and 5 watt amplifiers and 9 dB gain antennas.

Same here, a lot of UHF CBers are using 25W surplus commercial radios
instead of the legal max 5W...

---
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Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.417 / Virus Database: 233 - Release Date: 8/11/2002

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## 70. [ss] Re: Part 15 a very bad idea

From: xlpitlum <multiplx@online.dct.com>
Date: Thu, 14 Nov 2002 17:58:20 -0600 (CST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-106996-2002.11.14-18.42.13--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Here is a clear violation of Part 15 being bragged about
> in a press release.  Part 15 was a bad idea from its
> inception since it was inevitable that the "CB mentality"
> of "anything goes" would eventually creep in.  I am sure
> that no one intended for Part 15 devices to have hundreds
> of watts EIRP.
>
>
> http://www.computerworld.com/mobiletopics/mobile/story/0,10801,75830,00.html
>
>
> PLEASE hand this to your enforcement division for immediate
> action.
>
> Dr. Robert McGwier
> IDA/CCR-P
>

  Except for the slight fact they are operating under government control.

  HPWREN works with the Space and Naval Warfare Systems Center - San Diego
  (i.e. Navy) and San Clemente Island is their playground.

  The frequencies between are 2.417 & 2.450 GHz are basicly goverenment
  exclusive, we're just borrowing them.  Refer to the US Department of
  Commerce, National Telecommunications and Information Administration -
  Office of Spectrum Managment.  The FCC is just a pawn, Congress gave them
  no power for encforcement.

  Here's a good chart to print out:

   http://www.ntia.doc.gov/osmhome/allochrt.pdf

---
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## 71. [ss] Re: Part 15 a very bad idea

From: Walt DuBose <dubose@texas.net>
Date: Thu, 14 Nov 2002 18:12:27 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-106997-2002.11.14-18.56.04--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Tony Langdon wrote:
<stuff deleted>
>
> Here, it's commercial operators looking for more power in rural areas
> (actually, they do have some good arguments - low population density and
> long distances).  The community groups are happy to work within the power
> limits - they have a lot in common with hams in the way they work.
>

I would really like to see them moved the rural use up above
2.45...give
them the top 3 channels and let them run more EIRP and have a
simple
license process.

> > And let me push here for the use of SMTP and H323
> > (NetMeeting) voice as the
> > first uses of 802.11b operation under Part 97 rules.
>
> Well, I'd go for VoIP.  I dunno about H323, it can be a bit ugly, especially
> if you have to stick NAT in to make IPs go around.  I'd experiment with a
> variety of protocols.  Our VoIP links on the Internet (IRLP, Echolink, etc)
> actually don't use H323, but instead use variations on the RTP over UDP
> theme in most cases, and one app (eQSO) actually uses TCP.  SMTP is also
> useful, and it's worth carrying some tunneled AX.25 traffic as well, since
> this sort of link will kick the traditional packet backbone to death. :)

Ok, give me URLs where we can get VoIP software for Linux and MS
OSs.  My only
requirement is that you not need to connect to a server...you can
connect peer-to-
peer and have multiple connects.

>
> > We REALLY need a bi-directional amplifier that will take
> > 50-200mw and boost it
> > up to 2-3 watts and an horizontally polarized,
> > omni-directional antenna that
> > hams can build that has 8-9+ dB gain.  Anyone with solid
> > designs that you have
> > built and are working, please let the SIG know about them.
>
> One of the guys in the local community wireless group has been building
> omnis (and he's not even a ham), and seems to be having good results.  I
> could try and get hold of the design he's using and people here could try
> building and evaluating them.
>

GREAT, go for it.

Walt/K5YFW

---
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## 72. [ss] Re: Part 15 a very bad idea

From: "Eric S. Johansson" <esj@harvee.billerica.ma.us>
Date: Thu, 14 Nov 2002 19:25:05 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-106998-2002.11.14-19.09.00--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Walt DuBose wrote:
> Ok, give me URLs where we can get VoIP software for Linux and MS
> OSs.  My only
> requirement is that you not need to connect to a server...you can
> connect peer-to-
> peer and have multiple connects.

www.speakfreely.org

and additionally look up SIP based systems

---eric

---
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## 73. [ss] Re: Part 15 a very bad idea

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Fri, 15 Nov 2002 11:31:51 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107000-2002.11.14-19.30.55--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The antenna design being built by the locals is at http://wireless.gumph.org
accrding to my sources (actually the guy here that builds them).

---
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Checked by AVG anti-virus system (http://www.grisoft.com).

Version: 6.0.417 / Virus Database: 233 - Release Date: 8/11/2002

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## 74. [ss] Re: Part 15 a very bad idea

From: Walt DuBose <dubose@texas.net>
Date: Thu, 14 Nov 2002 18:54:34 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107001-2002.11.14-19.38.07--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

xlpitlum wrote:
>
>   Except for the slight fact they are operating under government control.
>
>   HPWREN works with the Space and Naval Warfare Systems Center - San Diego
>   (i.e. Navy) and San Clemente Island is their playground.
>
>   The frequencies between are 2.417 & 2.450 GHz are basicly goverenment
>   exclusive, we're just borrowing them.  Refer to the US Department of
>   Commerce, National Telecommunications and Information Administration -
>   Office of Spectrum Managment.  The FCC is just a pawn, Congress gave them
>   no power for encforcement.
>

But because it is the Federal Government DOES NOT give them the
right to
use a specific frequency even though it might be a primary
government
frequency.  There is an Office, like the FCC, within the Federal
Government
that is in charge of assigning frequencies or frequency bands.
Generally,
if the frequencies are shared with civilian use, the government
follows the
FCC emission parameters IF it is the same mode and use as the
civilian use.

I server 10 years as an Air Force Frequency Manager and can
assure you that
even within the DoD (especially within the DoD) frequency
regulation is very
strict.

Walt/K5YFW

>   Here's a good chart to print out:
>
>    http://www.ntia.doc.gov/osmhome/allochrt.pdf
>
> ---
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---
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## 75. [ss] Re: Part 15 a very bad idea

From: Walt DuBose <dubose@texas.net>
Date: Thu, 14 Nov 2002 19:10:25 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107003-2002.11.14-19.54.05--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Tony Langdon wrote:
>
> The antenna design being built by the locals is at http://wireless.gumph.org
> accrding to my sources (actually the guy here that builds them).
>

That is a SUPER design and the dimensions look right and it will
be between 6-9 dB gain.
probably more like 6.  But they will have some coax loss so I
wouldn't complain if they
ran one watt out and a 9 dB gain antenna and using 10+ ft of
coax.

Again its a good antenna, its just vertically polarized and I
think most of use are in
agreement that we should use horizontal polarization as it
isolates us from the Part 15
folks and it also seems to have better penetration through
foliage.

Walt/K5YFW


> ---
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> Checked by AVG anti-virus system (http://www.grisoft.com).
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>
>
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>
> ---
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---
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## 76. [ss] Re: Part 15 a very bad idea

From: xlpitlum <multiplx@online.dct.com>
Date: Thu, 14 Nov 2002 19:13:49 -0600 (CST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107004-2002.11.14-19.57.48--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> I server 10 years as an Air Force Frequency Manager and can
> assure you that
> even within the DoD (especially within the DoD) frequency
> regulation is very
> strict.
>

  Then you know all certified Part 15 devices have a sticker on them
  warning that they may receive "harmful" interference from other operations
  taking place in that band.  The users/consumers where warned their devices
  may not work as advertised.

---
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## 77. [ss] Re: Part 15 a very bad idea

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Fri, 15 Nov 2002 12:14:14 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107005-2002.11.14-19.58.15--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> That is a SUPER design and the dimensions look right and it will
> be between 6-9 dB gain.
> probably more like 6.  But they will have some coax loss so I

> wouldn't complain if they
> ran one watt out and a 9 dB gain antenna and using 10+ ft of
> coax.
>
> Again its a good antenna, its just vertically polarized and I
> think most of use are in
> agreement that we should use horizontal polarization as it
> isolates us from the Part 15
> folks and it also seems to have better penetration through
> foliage.

Well, omnis get harder.  I know the guys in perth were selling a slotted
waveguide antenna at one stage, but it was expensive and I don't recall any
DIY details being published.  That might have yielded horizontal
polarization.

---
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## 78. [ss] Re: Part 15 a very bad idea

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Fri, 15 Nov 2002 11:26:30 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107006-2002.11.14-19.58.29--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> I would really like to see them moved the rural use up above
> 2.45...give
> them the top 3 channels and let them run more EIRP and have a
> simple
> license process.

That'd be good, though number of channels available might be a prob there...

> Ok, give me URLs where we can get VoIP software for Linux and MS
> OSs.  My only
> requirement is that you not need to connect to a server...you can
> connect peer-to-
> peer and have multiple connects.

Have a look at Speak Freely..

http://www.speakfreely.org (Windows)
http://www.fourmilab.ch/speakfree/unix (*NIX).

Open source, supports many codecs and multicast, as well as a few transport
protocols, and the common ancestor to at least two of today's amateur VoIP
systems.

> > One of the guys in the local community wireless group has
> been building
> > omnis (and he's not even a ham), and seems to be having
> good results.  I
> > could try and get hold of the design he's using and people
> here could try
> > building and evaluating them.
> >
>
> GREAT, go for it.

He's just popped onto IRC, so I'll get some info :)

---
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## 79. [ss] Re: Part 15 a very bad idea

From: Walt DuBose <dubose@texas.net>
Date: Thu, 14 Nov 2002 19:24:13 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107011-2002.11.14-20.07.47--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

"Eric S. Johansson" wrote:
>
> Walt DuBose wrote:
> > Ok, give me URLs where we can get VoIP software for Linux and MS
> > OSs.  My only requirement is that you not need to connect to a
> server...you can connect peer-to-peer and have multiple connects.
>
> www.speakfreely.org
>
> and additionally look up SIP based systems
>
> ---eric
>

There are a couple of bothersome things that I see.

One is that it appears to require a server.  We want software
that
will work peer-to-peer and even multiple connects (party line)
without
having a server.

And two, an even more importantly this quote bothers me...

       "To protect against eavesdropping, sfmike provides a
variety
       of encryption  algorithms, including Blowfish, IDEA, DES,
and
       a key read from a file.  Any number of encryption
algorithms
       may  be used simultaneously (assuming your machine is fast
enough)."

We cannot use encryption under Part 97.  So, I think that this
would
prevent its use on the ham bands.

This is very important.  We cannot just assume that because we
can use
certain software on the Internet that we can use it on 802.11b
under
Part 97.  We need to examine the application closely to insure
that it
can be used under part 97.

Thanks for the vital input.  I am looking forward to hearing from
others.

73,

Walt/K5YFW

PS, I now have to change my requirement to additionally state
that the
application muse be usable under Part 97.

---
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## 80. [ss] Re: Part 15 a very bad idea

From: Walt DuBose <dubose@texas.net>
Date: Thu, 14 Nov 2002 19:28:26 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107016-2002.11.14-20.12.02--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

xlpitlum wrote:
>
> > I server 10 years as an Air Force Frequency Manager and can
> > assure you that
> > even within the DoD (especially within the DoD) frequency
> > regulation is very
> > strict.
> >
>
>   Then you know all certified Part 15 devices have a sticker on them
>   warning that they may receive "harmful" interference from other operations
>   taking place in that band.  The users/consumers where warned their devices
>   may not work as advertised.
>

But the point is that just because you are the federal
government, it does NOT
give you carte blanche to use any frequency set aside for
government use.  You
must still obtain permission to use it.

Also, in the DoD, you cannot use RF hardware just because it has
a Part 15 sticker
on it.  You still cannot use it without specific permission from
you controlling
authority.  In the Air Force it is you installation
Communications Squadron.

Walt/K5YFW

---
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## 81. [ss] Re: Part 15 a very bad idea

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Fri, 15 Nov 2002 12:29:39 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107017-2002.11.14-20.13.43--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> There are a couple of bothersome things that I see.
>
> One is that it appears to require a server.  We want software
> that
> will work peer-to-peer and even multiple connects (party line)
> without
> having a server.

Well, it solves both of those problems...  multicast for the conferences.
The other server mentioned is an addressing server.  Not really necessary,
you can resolve people's addresses by other means (e.g. DNS).
>
> And two, an even more importantly this quote bothers me...
>
>        "To protect against eavesdropping, sfmike provides a
> variety
>        of encryption  algorithms, including Blowfish, IDEA, DES,
> and
>        a key read from a file.  Any number of encryption
> algorithms
>        may  be used simultaneously (assuming your machine is fast
> enough)."

You can compile it without encryption, if that's an issue, and a non crypto
version is available for download pre-compiled for Windows.

---
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## 82. [ss] Re: Part 15 a very bad idea

From: Walt DuBose <dubose@texas.net>
Date: Thu, 14 Nov 2002 19:33:40 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107019-2002.11.14-20.17.17--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Tony Langdon wrote:
>
> > That is a SUPER design and the dimensions look right and it will
> > be between 6-9 dB gain.
> > probably more like 6.  But they will have some coax loss so I
> > wouldn't complain if they
> > ran one watt out and a 9 dB gain antenna and using 10+ ft of
> > coax.
> >
> > Again its a good antenna, its just vertically polarized and I
> > think most of use are in
> > agreement that we should use horizontal polarization as it
> > isolates us from the Part 15
> > folks and it also seems to have better penetration through
> > foliage.
>
> Well, omnis get harder.  I know the guys in perth were selling a slotted
> waveguide antenna at one stage, but it was expensive and I don't recall any
> DIY details being published.  That might have yielded horizontal
> polarization.
>

Yes sir...a slotted antenna is hard to manufacturer as some of us
are finding out.
You must have a computer milling/punching machine to do it
correctly.  But we have
a good design for a 15 dB slot antenna that is omni-directional
(Ok somewhat omin-
directional).  I think you really need the slots in a cylinder
rather than square
stock to make it truly omni-directional.

Hopefully before I hit the sack tonight I will pull out my 1930's
antenna manual and
see if there is a design for stacked loop antennas.  The highest
frequency that I have
seen that uses them is on UHF TV channels.

Walt/K5YFW

---
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## 83. [ss] Re: Part 15 a very bad idea

From: Walt DuBose <dubose@texas.net>
Date: Thu, 14 Nov 2002 19:39:16 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>

Message-ID: <LYR6751-107020-2002.11.14-20.22.50--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Tony Langdon wrote:
> 
> > There are a couple of bothersome things that I see.
> >
> > One is that it appears to require a server.  We want software
> > that
> > will work peer-to-peer and even multiple connects (party line)
> > without
> > having a server.
> 
> Well, it solves both of those problems...  multicast for the conferences.
> The other server mentioned is an addressing server.  Not really necessary,
> you can resolve people's addresses by other means (e.g. DNS).

Ok, I'm happy to hear that. As you can tell I didn't read all the
"specs"
I suppose that just needing a server for multicast is Ok...not
ideal but
Ok.

Yes, I expect a lot of manual IP addresses input.  In Unix its
the /etc/resolv.conf
where you out the IP addresses needed for lookup or you can just
use IP addresses.
I don't know how you do it in MS.


> >
> > And two, an even more importantly this quote bothers me...
> >
> >        "To protect against eavesdropping, sfmike provides a
> > variety
> >        of encryption  algorithms, including Blowfish, IDEA, DES,
> > and
> >        a key read from a file.  Any number of encryption
> > algorithms
> >        may  be used simultaneously (assuming your machine is fast
> > enough)."
> 
> You can compile it without encryption, if that's an issue, and a non crypto
> version is available for download pre-compiled for Windows.
> 

Well, I'll have to see if you can do that with the Unix version.

Thanks for your assistance and knowledge here.

73,

Walt/K5YFW

PS, how is you summer?  Is El Nino bothering you?

> ---
> Outgoing mail has been scanned for Viruses
> Checked by AVG anti-virus system (http://www.grisoft.com).
> Version: 6.0.417 / Virus Database: 233 - Release Date: 8/11/2002
> 
> 
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> 
> Any opinions expressed in this message are those of the individual sender.
> 
> ---
> You are currently subscribed to ss as: dubose@texas.net
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---
You are currently subscribed to ss as: lyris.ss@tapr.org
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## 84. [ss] Re: Part 15 a very bad idea

From: wchast@utilpart.com
Date: Thu, 14 Nov 2002 21:16:46 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107022-2002.11.14-21.01.43--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Amen, it even has all kinds of neat codecs to work with,
I have even pushed audio over a 2k4 packet link and it was
not that bad !!!

> -----Original Message-----
> From: Eric S. Johansson [mailto:esj@harvee.billerica.ma.us]
> Sent: Thursday, November 14, 2002 07:25 PM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: Part 15 a very bad idea
>
>
> Walt DuBose wrote:
> > Ok, give me URLs where we can get VoIP software for Linux and MS
> > OSs.  My only
> > requirement is that you not need to connect to a server...you can
> > connect peer-to-
> > peer and have multiple connects.
>
> www.speakfreely.org
>
> and additionally look up SIP based systems
>
> ---eric
>
>
> ---
> You are currently subscribed to ss as: wchast@utilpart.com
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>

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## 85. [ss] Re: Part 15 a very bad idea

From: wchast@utilpart.com
Date: Thu, 14 Nov 2002 21:22:35 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107023-2002.11.14-21.07.34--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>
>
> There are a couple of bothersome things that I see.
>
> One is that it appears to require a server.  We want software
> that
> will work peer-to-peer and even multiple connects (party line)
> without
> having a server.

I have always used it point to point, you can use a server, but
I have only used the one SpeakFreely one a couple of times excepth
for the echo server to set things up for some internet connect.
>
> And two, an even more importantly this quote bothers me...

>
>        "To protect against eavesdropping, sfmike provides a
> variety
>        of encryption  algorithms, including Blowfish, IDEA, DES,
> and
>        a key read from a file.  Any number of encryption
> algorithms
>        may  be used simultaneously (assuming your machine is fast
> enough)."
>
> We cannot use encryption under Part 97.  So, I think that this
> would
> prevent its use on the ham bands.
>
> This is very important.  We cannot just assume that because we
> can use
> certain software on the Internet that we can use it on 802.11b
> under
> Part 97.  We need to examine the application closely to insure
> that it
> can be used under part 97.
>
> Thanks for the vital input.  I am looking forward to hearing from
> others.
>
> 73,
You can use it with or without encryption, your choice.

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## 86. [ss] Re: Part 15 a very bad idea

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Fri, 15 Nov 2002 13:52:19 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107025-2002.11.14-21.36.20--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Amen, it even has all kinds of neat codecs to work with,
> I have even pushed audio over a 2k4 packet link and it was
> not that bad !!!

It's real ham friendly software, LOTS to tinker with! :)

---
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Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.417 / Virus Database: 233 - Release Date: 8/11/2002

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## 87. [ss] Re: Part 15 a very bad idea

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Fri, 15 Nov 2002 13:53:26 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107026-2002.11.14-21.37.36--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> I have always used it point to point, you can use a server, but
> I have only used the one SpeakFreely one a couple of times excepth
> for the echo server to set things up for some internet connect.

And we ran a multicast group chat WITHOUT a server on a 2.4 GHz WLAN! :)
Worked a treat.

---
Outgoing mail has been scanned for Viruses
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.417 / Virus Database: 233 - Release Date: 8/11/2002

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## 88. [ss] Re: Part 15 a very bad idea

From: wchast@utilpart.com
Date: Thu, 14 Nov 2002 22:57:31 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107039-2002.11.14-22.42.36--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

IRLP is based on it, a modified version is what they
use as the computer component running under LINUX.

Now to get a Sharp Zarus and put it on there, add a
802.11 card and I am ready for VoIP... B-]

Use a camara and they can even see me walk and talk...
That is scary, better not do that it could be a problem
once seen.

> -----Original Message-----
> From: Tony Langdon [mailto:tlangdon@atctraining.com.au]
> Sent: Thursday, November 14, 2002 09:53 PM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: Part 15 a very bad idea
>
>
> > I have always used it point to point, you can use a server, but
> > I have only used the one SpeakFreely one a couple of times excepth
> > for the echo server to set things up for some internet connect.
>
> And we ran a multicast group chat WITHOUT a server on a 2.4
> GHz WLAN! :)
> Worked a treat.
>
> ---
> Outgoing mail has been scanned for Viruses
> Checked by AVG anti-virus system (http://www.grisoft.com).
> Version: 6.0.417 / Virus Database: 233 - Release Date: 8/11/2002
>
>
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## 89. [ss] Re: Part 15 a very bad idea

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Fri, 15 Nov 2002 15:03:23 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107040-2002.11.14-22.47.29--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> IRLP is based on it, a modified version is what they
> use as the computer component running under LINUX.

That's correct.  What is less known is that iLINK/Echolink uses a slightly
modifird form of the Speak Freely RTP implementation with GSM encoded audio
as the payload.  Echolink is heavily based on Speak Freely as well.
>
> Now to get a Sharp Zarus and put it on there, add a
> 802.11 card and I am ready for VoIP... B-]

:-)
>
> Use a camara and they can even see me walk and talk...
> That is scary, better not do that it could be a problem
> once seen.

LOL

Well, we setup the world's most expensive walkie talkie the other month...
Laptops running Speak Freely and 802.11b ;)

---
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Version: 6.0.417 / Virus Database: 233 - Release Date: 8/11/2002

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## 90. [ss] Re: Part 15 a very bad idea

From: xlpitlum <multiplx@online.dct.com>
Date: Thu, 14 Nov 2002 23:11:14 -0600 (CST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107049-2002.11.14-23.55.10--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> But the point is that just because you are the federal
> government, it does NOT
> give you carte blanche to use any frequency set aside for
> government use.  You
> must still obtain permission to use it.
>
> Also, in the DoD, you cannot use RF hardware just because it has
> a Part 15 sticker
> on it.  You still cannot use it without specific permission from
> you controlling
> authority.  In the Air Force it is you installation
> Communications Squadron.
>

  Does the government get permission everytime a soldier keys a SINCGARS or
  HAVE QUICK radio set?  How about a permission slip to transmit on 243 MHz?

  Did the government get permission to transmit around 315 MHz near Norfolk, VA
  and jam all those remote car and garage door openers?

  Did you get Iraq's permission to jam their radar sites?

  How about police departments using high power 2.4 GHz devices for both 802.11
  data links and video.  Law Enforcement Technology magazine, Oct. 2002 has a
  good article on agencies that use them.  Some even admit to use higher power
  (10 Watt) amplifiers on their video links.

  If they really needed permission, thousands of high ranking people should/
  would be in jail.

---
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## 91. [ss] Re: Part 15 a very bad idea

From: "Steve Stroh" <lists@strohpub.com>
Date: Thu, 14 Nov 2002 21:43:57 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107060-2002.11.15-00.29.03--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The video links referenced are a LICENSED use of 2.4 GHz, so higher power is
allowed.

The law enforcement use referenced is very much fully compliant with Part 15
rules. The amplifiers used ("high power") are certified as a system and
within the EIRP limits allowed for license-exempt Part 15 uses.


Thanks,

Steve

--
Steve Stroh   steve@strohpub.com  425-481-0600


> -----Original Message-----
> From: bounce-ss-24593@lists.tapr.org
> [mailto:bounce-ss-24593@lists.tapr.org]On Behalf Of xlpitlum
> Sent: Thursday, November 14, 2002 21:11
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: Part 15 a very bad idea
>
>
>   Does the government get permission everytime a soldier keys a
> SINCGARS or

> HAVE QUICK radio set? How about a permission slip to transmit
> on 243 MHz?
>
> Did the government get permission to transmit around 315 MHz
> near Norfolk, VA
> and jam all those remote car and garage door openers?
>
> Did you get Iraq's permission to jam their radar sites?
>
> How about police departments using high power 2.4 GHz devices
> for both 802.11
> data links and video. Law Enforcement Technology magazine,
> Oct. 2002 has a
> good article on agencies that use them. Some even admit to use
> higher power
> (10 Watt) amplifiers on their video links.
>
> If they really needed permission, thousands of high ranking
> people should/
> would be in jail.
>

---
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## 92. [ss] Re: Part 15 a very bad idea

From: Stewart Teaze <horseshoe7@yahoo.com>
Date: Thu, 14 Nov 2002 22:58:38 -0800 (PST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107066-2002.11.15-01.42.39--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

--- xlpitlum <multiplx@online.dct.com> wrote:
>
> Does the government get permission everytime a
> soldier keys a SINCGARS or
> HAVE QUICK radio set?

Generally, yes. The hopsets/frequencies are pre-setup
on a daily basis for their GOVERNMENT ALLOCATED
frequencies - if you are playing with real fill
variables, otherwise you use pre-selected test
frequencies for the base you are on.

> How about a permission slip
> to transmit on 243 MHz?

Don't be ridiculous... that's a guard channel, and you
better have a good reason to transmit on it... and if
you do - then of course you don't need permission.
Just like on amateur radio in an emergency, most of
the rules go out the window.

- Stewart

_____
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http://webhosting.yahoo.com

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## 93. [ss] Re: Part 15 a very bad idea

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Fri, 15 Nov 2002 13:50:00 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107068-2002.11.15-02.47.36--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Ok, I'm happy to hear that. As you can tell I didn't read all the
> "specs"
> I suppose that just needing a server for multicast is Ok...not
> ideal but
> Ok.

Multicast doesn't need a server, that's the whole point, but you will need
to run a multicast routing daemon on all routers in the network.
>
> Yes, I expect a lot of manual IP addresses input.  In Unix its
> the /etc/resolv.conf
> where you out the IP addresses needed for lookup or you can just
> use IP addresses.
> I don't know how you do it in MS.

for hosts

c:\windows\hosts  (win3x/9x/ME)
c:\winnt\system32\drivers\etc\hosts (WinNT/2k)
c:\windows\drivers\etc\hosts (WinXP)

:)

> Well, I'll have to see if you can do that with the Unix version.
>
> Thanks for your assistance and knowledge here.

Check the Makefile. :-)

---
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Version: 6.0.417 / Virus Database: 233 - Release Date: 8/11/2002


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## 94. [ss] Re: Part 15 a very bad idea

From: xlpitlum <multiplx@online.dct.com>
Date: Fri, 15 Nov 2002 02:14:48 -0600 (CST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107070-2002.11.15-02.58.46--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Generally, yes.  The hopsets/frequencies are pre-setup
> on a daily basis for their GOVERNMENT ALLOCATED
> frequencies - if you are playing with real fill
> variables, otherwise you use pre-selected test
> frequencies for the base you are on.

  That's the point.  2.417 - 2.450 GHz are GOVERNMENT ALLOCATED also.
  Get over it.

>
> > How about a permission slip
> > to transmit on 243 MHz?
>
> Don't be ridiculous... that's a guard channel, and you
> better have a good reason to transmit on it... and if
> you do - then of course you don't need permission.
> Just like on amateur radio in an emergency, most of
> the rules go out the window.
>

 That's the point.  It's GOVERNMENT ALLOCATED.  The government can, and do,
 transmit there (and anywhere else) they please.

---
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## 95. [ss] Re: Part 15 a very bad idea

From: xlpitlum <multiplx@online.dct.com>
Date: Fri, 15 Nov 2002 02:21:13 -0600 (CST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107071-2002.11.15-03.05.10--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>
> The video links referenced are a LICENSED use of 2.4 GHz, so higher power is
> allowed.

Duh, that was my point. Government agencies are the primary user of the amateur bands, VHF/UHF, microwave and even HF (OTH radar) are all shared resources. Amateur radio (and Part 15 users) are secondary and must except any interference they receive.

---
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## 96. [ss] Re: Part 15 a very bad idea <LYR27907-106976-2002.11.14-12.43.46--rwmcgwier#comcast.net@lists.tapr.org>

From: Robert McGwier <rwmcgwier@comcast.net>
Date: Fri, 15 Nov 2002 06:51:41 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107077-2002.11.15-06.35.40--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

See 47 CFR 15.247(3)

(3) Except as shown in paragraphs (b)(3) (i), (ii) and (iii) of this section, if transmitting antennas of directional gain greater than 6 dBi are used the peak output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1) or (b)(2) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(i) Systems operating in the 2400-2483.5 MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi provided the maximum peak output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

Bob
-----Original Message-----
From: bounce-ss-27907@lists.tapr.org
[mailto:bounce-ss-27907@lists.tapr.org]On Behalf Of dubose@texas.net
Sent: Thursday, November 14, 2002 7:00 AM
To: TAPR Spread Spectrum Special Interest Group
Cc: rl@wells.com; dogan@perese.com; thomas@uthscsa.edu; n5jak@arrl.net
Subject: [ss] Re: Part 15 a very bad idea

I have a slightly different take on the issue; however, agree that this "operation" seems to show an intent to disregard FCC Part 15 Regulations if not
in fact that they do violate the Regulations.

Walt/K5YFW

---
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## 97. [ss] Re: Part 15 a very bad idea

From: Gerry Creager N5JXS <gerry.creager@tamu.edu>
Date: Fri, 15 Nov 2002 08:12:18 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107087-2002.11.15-08.55.41--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

For VoIP on handhelds, there's been a lot of work on PocketBONE using
OpenH323 (http://www.openh323.org)

gerry

wchast@utilpart.com wrote:
> IRLP is based on it, a modified version is what they
> use as the computer component running under LINUX.
>
> Now to get a Sharp Zarus and put it on there, add a
> 802.11 card and I am ready for VoIP... B-]
>
> Use a camara and they can even see me walk and talk...
> That is scary, better not do that it could be a problem
> once seen.
>
>
>>-----Original Message-----
>>From: Tony Langdon [mailto:tlangdon@atctraining.com.au]
>>Sent: Thursday, November 14, 2002 09:53 PM
>>To: TAPR Spread Spectrum Special Interest Group
>>Subject: [ss] Re: Part 15 a very bad idea
>>
>>
>>
>>>I have always used it point to point, you can use a server, but
>>>I have only used the one SpeakFreely one a couple of times excepth
>>>for the echo server to set things up for some internet connect.
>>
>>And we ran a multicast group chat WITHOUT a server on a 2.4
>>GHz WLAN! :)
>>Worked a treat.
>>
>>---
>>Outgoing mail has been scanned for Viruses
>>Checked by AVG anti-virus system (http://www.grisoft.com).
>>Version: 6.0.417 / Virus Database: 233 - Release Date: 8/11/2002
>>
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--
Gerry Creager -- gerry.creager@tamu.edu
Network Engineering, Academy for Advanced Telecommunications
Texas A&M University, College Station, TX
Office: 979.458.4020 FAX: 979.847.8578 Cell: 979.229.5301
Page: 979.228.0173 -or- gcreager@my2way.com


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## 98. [ss] Re: Part 15 a very bad idea

From: Stewart Teaze <horseshoe7@yahoo.com>
Date: Fri, 15 Nov 2002 08:11:14 -0800 (PST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107095-2002.11.15-10.55.09--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> That's the point. It's GOVERNMENT ALLOCATED. The
> government can, and do,
> transmit there (and anywhere else) they please.

1) These are totally different allocations. Even a
government entity needs permission to transmit within
its allocation.

2) This wasn't even the government - it was a
government-funded private entity. If not, why in the
heck would HPWREN even have mentioned "not having to
deal with the FCC" in the original article?

You mix apples and oranges, and other various fruits,
so freely, that a conversation with you turns to fruit
punch in no time.

These suckers appear to have been busting the rules,
but on my nickel. That's my only beef.

- Stewart


_____
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http://webhosting.yahoo.com

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## 99. [ss] Re: Part 15 a very bad idea <LYR27907-106976-2002.11.14-12.43.46--rwmcgwier#comcast.net@lists.tapr.org>

From: Jeff King <jeff@aerodata.net>
Date: Fri, 15 Nov 2002 10:35:10 -0600 (CST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107097-2002.11.15-11.19.05--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

So, your now agreeing that a station with a ERP of 400 watts, in point to point
service, would fall under the intent of the part 15 rules?

i.e. 36dBi gain antenna + 20dBm transmitter = 56dBm ERP (legal PtP 400 watts
erp)

What UCSD used:

24dBi gain antenna + 30dBm transmitter = 54 dBm ERP (illegal ~ 250 watts erp)


Now, 36dBi gain antennas are basically TVRO dishes... been done but not so
portable. However, one can easily get 27dBi gain 2.4ghz dishes, and they are
managable, so lets look at what USCD should have tried:

27dBi gain antenna + 23dBm transimitter = 50dBm ERP (legal PtP 100 watts ERP)

So, we are looking at a 4db hit they would have to take to be legal under the

rules.

Quoting Robert McGwier <rwmcgwier@comcast.net>:

> See 47 CFR 15.247(3)
>
> (3) Except as shown in paragraphs (b)(3) (i), (ii) and (iii) of this
> section, if transmitting antennas of directional gain greater than 6 dBi
> are
> used the peak output power from the intentional radiator shall be
> reduced
> below the stated values in paragraphs (b)(1) or (b)(2) of this section,
> as
> appropriate, by the amount in dB that the directional gain of the
> antenna
> exceeds 6 dBi.
>
> (i) Systems operating in the 2400-2483.5 MHz band that are used
> exclusively
> for fixed, point-to-point operations may employ transmitting antennas
> with
> directional gain greater than 6 dBi provided the maximum peak output
> power
> of the intentional radiator is reduced by 1 dB for every 3 dB that the
> directional gain of the antenna exceeds 6 dBi.
>
>
> Bob
> -----Original Message-----
> From: bounce-ss-27907@lists.tapr.org
> [mailto:bounce-ss-27907@lists.tapr.org]On Behalf Of dubose@texas.net
> Sent: Thursday, November 14, 2002 7:00 AM
> To: TAPR Spread Spectrum Special Interest Group
> Cc: rl@wells.com; dogan@perese.com; thomas@uthscsa.edu; n5jak@arrl.net
> Subject: [ss] Re: Part 15 a very bad idea
>
>
> I have a slightly different take on the issue; however, agree that
> this
> "operation" seems to show an intent to disregard FCC Part 15 Regulations
> if
> not
> in fact that they do violate the Regulations.
>
>
> Walt/K5YFW
>
>
>
>
> ---
> You are currently subscribed to ss as: jeff@aerodata.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 100. [ss] Re: Part 15 a very bad idea <LYR27907-106976-2002.11.14-12.43.46--rwmcgwier#comcast.net@lists.tapr.org> <LYR27907-107097-2002.11.15-11.19.05--rwmcgwier#comcast.net@lists.tapr.org>

From: Robert McGwier <rwmcgwier@comcast.net>
Date: Fri, 15 Nov 2002 13:43:53 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107132-2002.11.15-13.27.54--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I am saying that I went to look at the rules and here is what
I found.  I can't believe they understood the full implications
of these rules.  All I would like to see is for sanity to
return to Part 15.  Would I throw away the wireless 100-ish mbps
LAN I have in my house?  Of course not.  Would I allow ridiculous
interference levels to others in the band by allowing high power

and high gain antennas?  Of course not.  I basically agree with
your initial reply insofar as you stated that nothing would
ever happen and that indeed, in my lexicon "CB Rules apply"
to part 15.  There will be no enforcement at all and the 2.4 Ghz
bands will become a wasteland for us.  Spectrum allocation is
another of these places where the removal of federal regulations
to allow unfettered development and innovation can easily go too
far.  I believe we are on the brink with Part 15.

Bob N4HY

-----Original Message-----
From: bounce-ss-27907@lists.tapr.org
[mailto:bounce-ss-27907@lists.tapr.org]On Behalf Of Jeff King
Sent: Friday, November 15, 2002 11:35 AM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] Re: Part 15 a very bad idea
<LYR27907-106976-2002.11.14-12.43.46--rwmcgwier#comcast.net@lists.tapr.o
rg>


So, your now agreeing that a station with a ERP of 400 watts, in point to
point
service, would fall under the intent of the part 15 rules?

i.e. 36dBi gain antenna + 20dBm transmitter = 56dBm ERP  (legal PtP 400
watts
erp)

What UCSD used:

24dBi gain antenna + 30dBm transmitter = 54 dBm ERP (illegal ~ 250 watts
erp)


Now, 36dBi gain antennas are basically TVRO dishes... been done but not so
portable. However, one can easily get 27dBi gain 2.4ghz dishes, and they are
managable, so lets look at what USCD should have tried:

27dBi gain antenna + 23dBm transimitter = 50dBm ERP (legal PtP 100 watts
ERP)

So, we are looking at a 4db hit they would have to take to be legal under
the
rules.



Quoting Robert McGwier <rwmcgwier@comcast.net>:

> See 47 CFR 15.247(3)
>
> (3) Except as shown in paragraphs (b)(3) (i), (ii) and (iii) of this
> section, if transmitting antennas of directional gain greater than 6 dBi
> are
> used the peak output power from the intentional radiator shall be
> reduced
> below the stated values in paragraphs (b)(1) or (b)(2) of this section,
> as
> appropriate, by the amount in dB that the directional gain of the
> antenna
> exceeds 6 dBi.
>
> (i) Systems operating in the 2400-2483.5 MHz band that are used
> exclusively
> for fixed, point-to-point operations may employ transmitting antennas
> with
> directional gain greater than 6 dBi provided the maximum peak output
> power
> of the intentional radiator is reduced by 1 dB for every 3 dB that the
> directional gain of the antenna exceeds 6 dBi.
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> From: bounce-ss-27907@lists.tapr.org
> [mailto:bounce-ss-27907@lists.tapr.org]On Behalf Of dubose@texas.net
> Sent: Thursday, November 14, 2002 7:00 AM

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> Cc: rl@wells.com; dogan@perese.com; thomas@uthscsa.edu; n5jak@arrl.net
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>
>

---
You are currently subscribed to ss as: rwmcgwier@comcast.net
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 101. [ss] Re: Part 15 a very bad idea

From: Walt DuBose <dubose@texas.net>
Date: Fri, 15 Nov 2002 13:10:46 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107160-2002.11.15-13.54.24--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

You have totally missed the point.

But to answer some of your questions, even in war time you are
authorized to
operate on some, not all of the frequencies that a SINCGARS radio
is capable
of.  You still must go through the AOR (area of responsibility)
frequency
manager for permission to use specific channels.

All DoD aircraft are authorized to operate on "published"
(published in the
DoD * supplements) air-to-air and air-to-ground frequencies.  243
MHz and
121.5 Mhz are "published" frequencies.  You cannot simply choose
a frequency
and operate on it.  If you do, you just might get a courts
marshal.

As far as transmitting on 315 MHz (actually there are a number of
channels used
between 314.5 and 315.5 at 50 KHz intervals and that's going back
to the mid 1960's),
that has been a common published air-to-ground frequency for
years.  I have no
idea why it is allowed for garage openers.  I know that the Navy
has used 315 Mhz
for years.  It was originally the Navy/Marine Corp. aircraft to
artillery spotter
frequency back in the Korean War.

Yes, you have to get permission to jam Iraq's radar frequencies.
The permission
is covered in the OpOrd (operations order) for the sortie.

Police departments are not part of the federal government.  The
National

Telecommunications and Information Administration (NTIA) controls
the use
and assignment of frequencies allocated to the government...for
both the
civil and military agencies/departments.

The NTIA was set up by public law by voted on an approved by
Congress.
Congress is a representative body elected by U.S. citizens
residing in
the various states.  So if congress has done badly, then the
people you
need to go to jail are the ones that voted them into their
position.

If you require additional information, please contact me off-line
at
wdubose@satx.rr.com

Walt/K5YFW



xlpitlum wrote:
>
> > But the point is that just because you are the federal
> > government, it does NOT
> > give you carte blanche to use any frequency set aside for
> > government use.  You
> > must still obtain permission to use it.
> >
> > Also, in the DoD, you cannot use RF hardware just because it has
> > a Part 15 sticker
> > on it.  You still cannot use it without specific permission from
> > you controlling
> > authority.  In the Air Force it is you installation
> > Communications Squadron.
> >
>
>   Does the government get permission everytime a soldier keys a SINCGARS or
>   HAVE QUICK radio set?  How about a permission slip to transmit on 243 MHz?
>
>   Did the government get permission to transmit around 315 MHz near Norfolk, VA
>   and jam all those remote car and garage door openers?
>
>   Did you get Iraq's permission to jam their radar sites?
>
>   How about police departments using high power 2.4 GHz devices for both 802.11
>   data links and video.  Law Enforcement Technology magazine, Oct. 2002 has a
>   good article on agencies that use them.  Some even admit to use higher power
>   (10 Watt) amplifiers on their video links.
>
>   If they really needed permission, thousands of high ranking people should/
>   would be in jail.
>
> ---
> You are currently subscribed to ss as: dubose@texas.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 102. [ss] Re: Part 15 a very bad idea

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Fri, 15 Nov 2002 19:10:34 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107161-2002.11.15-13.55.35--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Here is a clear violation of Part 15 being bragged about
> in a press release.  Part 15 was a bad idea from its
> inception since it was inevitable that the "CB mentality"
> of "anything goes" would eventually creep in.  I am sure
> that no one intended for Part 15 devices to have hundreds
> of watts EIRP.


Perhaps someone should remind them that they should get

amateur radio licenses for experimenting & education.
That's what it's there for. I can't see why universities
shouldn't be entitled to callsigns like radio clubs,
or shouldn't be allowed to read scientific telemetry
data traffic from unattended remote stations. Uni of
Surrey / AMSAT amateur satellites do that. It would
certainly encourage them to teach more amateur radio
courses. A weeks' teaching then they'd know how to
set it up and operate it legally and without causing
interference. That's why we licence people.

CBers that want more than CB have traditionally made
the transition to amateur radio. We should encourage
WLANers who want more than "local" LANS to do the same.
We need to offer carrots as well as sticks. We could
make amateur radio courses cover more stuff relevant
to SS & WLAN for VHF-and-above licencees.

Ant M1FDE

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 103. [ss] Re: Part 15 a very bad idea <LYR27907-106976-2002.11.14-12.43.46--rwmcgwier#comcast.net@lists.tapr.org> <LYR27907-107097-2002.11.15-11.19.05--rwmcgwier#comcast.net@lists.tapr.org>

From: Jeff King <jeff@aerodata.net>
Date: Fri, 15 Nov 2002 13:15:03 -0600 (CST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107162-2002.11.15-13.59.05--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Going too far? It hasn't gone far enough in my opinion.

While I am all for protecting the ham bands, I also realize we live in a
captalist society and that the cold war is over. I think the Part 15
manufacturer's are far far more effective at using the resource of 2.45ghz then
hams ever will be. That is not to say hams should not have protected spectrum,
all I'm saying is this is the reality we need to accept.

BTW, in the orginal Part 15 spread spectrum rules (early 80's), the FCC called
for far wider bandwidths and power levels up to 75 watts. The incumbent
narrowband interests (political PAC's) shot that one down, but things (I wish)
could have been far far different. The FCC clearly understands what they are
doing in this regard, and I commend them for this.

Quoting Robert McGwier <rwmcgwier@comcast.net>:

> I am saying that I went to look at the rules and here is what
> I found.  I can't believe they understood the full implications
> of these rules.  All I would like to see is for sanity to
> return to Part 15.  Would I throw away the wireless 100-ish mbps
> LAN I have in my house?  Of course not.  Would I allow ridiculous
> interference levels to others in the band by allowing high power
> and high gain antennas?  Of course not.  I basically agree with
> your initial reply insofar as you stated that nothing would
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> to part 15.  There will be no enforcement at all and the 2.4 Ghz
> bands will become a wasteland for us.  Spectrum allocation is
> another of these places where the removal of federal regulations
> to allow unfettered development and innovation can easily go too
> far.  I believe we are on the brink with Part 15.
>
> Bob N4HY
>
> -----Original Message-----
> From: bounce-ss-27907@lists.tapr.org
> [mailto:bounce-ss-27907@lists.tapr.org]On Behalf Of Jeff King

> Sent: Friday, November 15, 2002 11:35 AM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: Part 15 a very bad idea
> <LYR27907-106976-2002.11.14-12.43.46--rwmcgwier#comcast.net@lists.tapr.o
> rg>
>
>
> So, your now agreeing that a station with a ERP of 400 watts, in point
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> point
> service, would fall under the intent of the part 15 rules?
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> i.e. 36dBi gain antenna + 20dBm transmitter = 56dBm ERP  (legal PtP
> 400
> watts
> erp)
>
> What UCSD used:
>
> 24dBi gain antenna + 30dBm transmitter = 54 dBm ERP (illegal ~ 250
> watts
> erp)
>
>
> Now, 36dBi gain antennas are basically TVRO dishes... been done but not
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> portable. However, one can easily get 27dBi gain 2.4ghz dishes, and they
> are
> managable, so lets look at what USCD should have tried:
>
> 27dBi gain antenna + 23dBm transimitter = 50dBm ERP (legal PtP 100
> watts
> ERP)
>
> So, we are looking at a 4db hit they would have to take to be legal
> under
> the
> rules.
>
>
>
>
> Quoting Robert McGwier <rwmcgwier@comcast.net>:
>
> > See 47 CFR 15.247(3)
> >
> > (3) Except as shown in paragraphs (b)(3) (i), (ii) and (iii) of this
> > section, if transmitting antennas of directional gain greater than 6
> dBi
> > are
> > used the peak output power from the intentional radiator shall be
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> > below the stated values in paragraphs (b)(1) or (b)(2) of this
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> > exceeds 6 dBi.
> >
> > (i) Systems operating in the 2400-2483.5 MHz band that are used
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> > for fixed, point-to-point operations may employ transmitting
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> > directional gain greater than 6 dBi provided the maximum peak output
> > power
> > of the intentional radiator is reduced by 1 dB for every 3 dB that
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> > directional gain of the antenna exceeds 6 dBi.
> >
> >
> > Bob
> > -----Original Message-----
> > From: bounce-ss-27907@lists.tapr.org
> > [mailto:bounce-ss-27907@lists.tapr.org]On Behalf Of dubose@texas.net
> > Sent: Thursday, November 14, 2002 7:00 AM
> > To: TAPR Spread Spectrum Special Interest Group
> > Cc: rl@wells.com; dogan@perese.com; thomas@uthscsa.edu;
> n5jak@arrl.net

> > Subject: [ss] Re: Part 15 a very bad idea
> >
> >
> > I have a slightly different take on the issue; however, agree that
> > this
> > "operation" seems to show an intent to disregard FCC Part 15
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> > Walt/K5YFW
> >
> >
> >
> >
> > ---
> > You are currently subscribed to ss as: jeff@aerodata.net
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> >
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---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 104. [ss] Re: Part 15 a very bad idea

From: Jeff King <jeff@aerodata.net>
Date: Fri, 15 Nov 2002 13:25:22 -0600 (CST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107163-2002.11.15-14.09.20--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

What advantage would a University have running that link under part 97?

They have to follow the APC rules if they go over 1 watt.

Further, I'd suggest we not encourage people that don't have a interest in radio to come to amateur radio. They (the university) just wanted to move data from point a to point b. They had their hand held by Proxim and where funded by the NSA. This is not a radio experimenter.

If you really want to attract more WIFi experimenter's to amateur radio, the first thing is you have to give them an advantage to doing so. There is no significant advantage to doing so the way the rules are currently written, IMHO.

Loosening up the APC rule (maybe to 10 watts) and give SS hams the same rights as other hams, and it could be a different story.

BTW, Part 15 DOES allow experimentation and this is covered under 15.23. I think this is a good thing.

Quoting Anthony N Martin <Anthony.N.Martin@marconi.com>:

>
> > Here is a clear violation of Part 15 being bragged about
> > in a press release.  Part 15 was a bad idea from its
> > inception since it was inevitable that the "CB mentality"
> > of "anything goes" would eventually creep in.  I am sure
> > that no one intended for Part 15 devices to have hundreds
> > of watts EIRP.
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> Perhaps someone should remind them that they should get
> amateur radio licenses for experimenting & education.
> That's what it's there for. I can't see why universities
> shouldn't be entitled to callsigns like radio clubs,
> or shouldn't be allowed to read scientific telemetry
> data traffic from unattended remote stations. Uni of
> Surrey / AMSAT amateur satellites do that. It would
> certainly encourage them to teach more amateur radio
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> set it up and operate it legally and without causing
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>
> CBers that want more than CB have traditionally made
> the transition to amateur radio. We should encourage
> WLANers who want more than "local" LANS to do the same.
> We need to offer carrots as well as sticks. We could
> make amateur radio courses cover more stuff relevant
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> Ant M1FDE
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---
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## 105. [ss] Re: Part 15 a very bad idea

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Fri, 15 Nov 2002 23:08:11 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107220-2002.11.15-17.52.54--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> The antenna design being built by the locals is at
http://wireless.gumph.org
> accrding to my sources (actually the guy here that builds them).

Seen that page.

I've made one.


I didn't make it out of RG213 as it's really crappy at 2.4GHz.
My books don't even give loss figures over 1GHz. I should post
some plots of the loss of a sample of RG213 (with N-types) from
a network analyser. I don't know why but the attenuation went
through a hideous looking step downwards :-( so I chickened out
of using RG213. Hmm, now I can't find that sample, these leads
(of various brands) are all different...

Mine are made of Andrews FSJ1-50A heliax - because I found lots
of offcuts lying around :-) It's 8.5mm OD over the jacket.
Velocity factor is 84% so 1/2 wave is 51.6mm. The frequency is
spot-on, halfway between 2.4 and 2.45GHz.

My first attempt had crummy mismatch around 8dB return loss. I was
seriously concerned it wasn't working but it seemed to have the
expected polar response at 2.4GHz. If you chop 3mm long holes in a
transmission line every 1/2 wave you would expect return loss to
go bad. I made another with the gaps between sections reduced as
much as possible (0.5-1mm) and the return loss is more respectable
18dB (1.3:1) at the band edges and over 30dB in the middle -
that's as good as my calibration kit. I've got plots to prove it.

* I left the dielectric on the last 1/4 wave bit, as shown in the
1st photo, not as shown in the diagrams, and made it a full 1/4
wave. (Ah - he's changed the webpage from when I did it.)

* I didn't use a jig and my sections aren't in-line but it
doesn't matter.

* I put mine in a 15mm plastic water pipe. I heated up the end
to jam it over the back of the N connector.

* The bandwidth is very narrow. 50MHz is about the limit. Just
enough for 2.4-2.45GHz. Make it much longer and I'm sure it would
be even narrower.

* The omni radiation pattern varies in elevation across the band.
ie. at one end it tilts downwards and at the other it tilts up.
Only in the middle it goes out horizontal.

When you get really high-gain omnis the beamwidth in the vertical
plane gets very very narrow, much narrower than a yagi to cover the
same range, or of the same gain. If you're trying to cover a town
from a tower it may not be quite what you were thinking of. The
elevation of the targets may not be in-line with your antenna. Beam
it over their heads and miss them all, and the signal comes down
too far away when it's too weak anyway.  You need to think about
aiming in the vertical plane, ie. lean it over, change height, or
change frequency. If the coverage radius is 500m it's critical, if
you have people with yagis 5km away it probably isn't.

The good thing about omnis is that they just look like a mast so
they don't draw much attention. Put a flag on it if you like :-)


I want to design a really long alford slotted pole. It's said
to be "the thing to have" but there don't seem to be any free
designs. I could use common materials like copper water pipe
and aluminium mast tubing. I've got access to simulation tools
but I don't have any papers on the subject, nor have I seen
any existing designs. Any info appreciated. You know the thing
I'm after - an oversized vertical co-ax with lots of slots
distributed around it and along its length.

There's plenty of info on single alford-slots but that's nothing
more than a dipole (but horizontally polarised for a vertical
pole).

Ant M1FDE

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 106. [ss] Re: Part 15 a very bad idea

From: xlpitlum <multiplx@online.dct.com>
Date: Fri, 15 Nov 2002 18:24:50 -0600 (CST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107225-2002.11.15-19.08.49--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Perhaps someone should remind them that they should get
> amateur radio licenses for experimenting & education.
> That's what it's there for. I can't see why universities
> shouldn't be entitled to callsigns like radio clubs,
> or shouldn't be allowed to read scientific telemetry
> data traffic from unattended remote stations. Uni of
> Surrey / AMSAT amateur satellites do that. It would
> certainly encourage them to teach more amateur radio
> courses. A weeks' teaching then they'd know how to
> set it up and operate it legally and without causing
> interference. That's why we licence people.
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> CBers that want more than CB have traditionally made
> the transition to amateur radio. We should encourage
> WLANers who want more than "local" LANS to do the same.
> We need to offer carrots as well as sticks. We could
> make amateur radio courses cover more stuff relevant
> to SS & WLAN for VHF-and-above licencees.
>

Part 15 allows for experimenters to operate without a licence or
FCC certification.

----

[Code of Federal Regulations]
[Title 47, Volume 1, Parts 0 to 19]
[Revised as of October 1, 2000]
[CITE: 47CFR15.23]

TITLE 47--TELECOMMUNICATION

CHAPTER I--FEDERAL COMMUNICATIONS COMMISSION

PART 15--RADIO FREQUENCY DEVICES--Table of Contents

Subpart A--General

Sec. 15.23 Home-built devices.

(a) Equipment authorization is not required for devices that are not marketed, are not constructed from a kit, and are built in quantities of five or less for personal use.

(b) It is recognized that the individual builder of home-built equipment may not possess the means to perform the measurements for determining compliance with the regulations. In this case, the builder is expected to employ good engineering practices to meet the specified technical standards to the greatest extent practicable. The provisions of Sec. 15.5 apply to this equipment.

(the other sections list the frequencies)

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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 107. [ss] Re: Part 15 a very bad idea

From: "Pinfold" <pinfold@xtra.co.nz>
Date: Sat, 16 Nov 2002 13:31:31 +1300
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107226-2002.11.15-19.17.35--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi there i remember seeing somthing about making alford slot antennas in a
RSGB uhf handbook for ATV repeater use ??or was it VHF Comms mag  cheers
Mike ZL1BTB
----- Original Message -----
From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Sent: Saturday, November 16, 2002 12:08 PM
Subject: [ss] Re: Part 15 a very bad idea

>
> > The antenna design being built by the locals is at
> http://wireless.gumph.org
> > accrding to my sources (actually the guy here that builds them).
>
> Seen that page.
>
> I've made one.
>
>
> I didn't make it out of RG213 as it's really crappy at 2.4GHz.
> My books don't even give loss figures over 1GHz. I should post
> some plots of the loss of a sample of RG213 (with N-types) from
> a network analyser. I don't know why but the attenuation went
> through a hideous looking step downwards :-( so I chickened out
> of using RG213. Hmm, now I can't find that sample, these leads
> (of various brands) are all different...
>
> Mine are made of Andrews FSJ1-50A heliax - because I found lots
> of offcuts lying around :-) It's 8.5mm OD over the jacket.
> Velocity factor is 84% so 1/2 wave is 51.6mm. The frequency is
> spot-on, halfway between 2.4 and 2.45GHz.

> My first attempt had crummy mismatch around 8dB return loss. I was
> seriously concerned it wasn't working but it seemed to have the
> expected polar response at 2.4GHz. If you chop 3mm long holes in a
> transmission line every 1/2 wave you would expect return loss to
> go bad. I made another with the gaps between sections reduced as
> much as possible (0.5-1mm) and the return loss is more respectable
> 18dB (1.3:1) at the band edges and over 30dB in the middle -
> that's as good as my calibration kit. I've got plots to prove it.
>
> * I left the dielectric on the last 1/4 wave bit, as shown in the
> 1st photo, not as shown in the diagrams, and made it a full 1/4
> wave. (Ah - he's changed the webpage from when I did it.)
>
> * I didn't use a jig and my sections aren't in-line but it
> doesn't matter.
>
> * I put mine in a 15mm plastic water pipe. I heated up the end
> to jam it over the back of the N connector.
>
> * The bandwidth is very narrow. 50MHz is about the limit. Just
> enough for 2.4-2.45GHz. Make it much longer and I'm sure it would
> be even narrower.
>
> * The omni radiation pattern varies in elevation across the band.
> ie. at one end it tilts downwards and at the other it tilts up.
> Only in the middle it goes out horizontal.
>
> When you get really high-gain omnis the beamwidth in the vertical
> plane gets very very narrow, much narrower than a yagi to cover the
> same range, or of the same gain. If you're trying to cover a town
> from a tower it may not be quite what you were thinking of. The
> elevation of the targets may not be in-line with your antenna. Beam
> it over their heads and miss them all, and the signal comes down
> too far away when it's too weak anyway.  You need to think about
> aiming in the vertical plane, ie. lean it over, change height, or
> change frequency. If the coverage radius is 500m it's critical, if
> you have people with yagis 5km away it probably isn't.
>
> The good thing about omnis is that they just look like a mast so
> they don't draw much attention. Put a flag on it if you like :-)
>
>
> I want to design a really long alford slotted pole. It's said
> to be "the thing to have" but there don't seem to be any free
> designs. I could use common materials like copper water pipe
> and aluminium mast tubing. I've got access to simulation tools
> but I don't have any papers on the subject, nor have I seen
> any existing designs. Any info appreciated. You know the thing
> I'm after - an oversized vertical co-ax with lots of slots
> distributed around it and along its length.
>
> There's plenty of info on single alford-slots but that's nothing
> more than a dipole (but horizontally polarised for a vertical
> pole).
>
> Ant M1FDE
>
>
>
>
>
>
> ---
> You are currently subscribed to ss as: PINFOLD@XTRA.CO.NZ
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 108. [ss] Re: Part 15 a very bad idea

From: xlpitlum <multiplx@online.dct.com>
Date: Fri, 15 Nov 2002 18:50:21 -0600 (CST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107227-2002.11.15-19.34.18--lyris.ss#tapr.org@lists.tapr.org>

Rendered body type: text/plain

> 1) These are totally different allocations.  Even a
> government entity needs permission to transmit within
> its allocation.

  No kidding, and the permission was already authorized.  If you have a 10
  year license and sit on it for 9 years you can still transmit for a year,
  without having to get permission.

> 2) This wasn't even the government - it was a
> government-funded private entity.  If not, why in the
> heck would HPWREN even have mentioned "not having to
> deal with the FCC" in the original article?

  Cuz' they are using part 15 off-the-shelf equipment?
>
> You mix apples and oranges, and other various fruits,
> so freely, that a conversation with you turns to fruit
> punch in no time.

  That's why no one likes you.

>
> These suckers appear to have been busting the rules,
> but on my nickel.  That's my only beef.
>

  Where were you two years ago?

  http://hpwren.ucsd.edu/Photos/index.html

  You're telling me those are illegal?  Wanna make a bet?

  They even testified before the House Science Committee's Subcommittee on
  Research:

  http://hpwren.ucsd.edu/info/testimony.html

  Clearly someone thinks they are doing something useful.  I don't see any
  US Marshalls tearing down their gear.

  All HPWREN is doing is using wasted RF spectrum for somethine useful, it's
  not the end of the world.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 109. [ss] Re: Part 15 a very bad idea

From: Stewart Teaze <horseshoe7@yahoo.com>
Date: Fri, 15 Nov 2002 17:01:54 -0800 (PST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107228-2002.11.15-19.45.53--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

--- xlpitlum <multiplx@online.dct.com> wrote:
> > You mix apples and oranges, and other various
> fruits,
> > so freely, that a conversation with you turns to
> fruit
> > punch in no time.
>
>   That's why no one likes you.
>

????

http://carcino.gen.nz/images/index.php/00b9a680/463c5922

_____
Do you Yahoo!?
Yahoo! Web Hosting - Let the expert host your site
http://webhosting.yahoo.com

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 110. [ss] Re: Part 15 a very bad idea

From: Bob Lorenzini <hwm@newportharbornet.com>
Date: Fri, 15 Nov 2002 17:59:05 -0800 (PST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107237-2002.11.15-20.43.04--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Fri, 15 Nov 2002, xlpitlum wrote:

>
>   All HPWREN is doing is using wasted RF spectrum for somethine useful, it's
>   not the end of the world.
>

Your not in SoCal are you?

Bob wd6dod

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 111. [ss] Re: Part 15 a very bad idea

From: xlpitlum <multiplx@online.dct.com>
Date: Fri, 15 Nov 2002 23:54:54 -0600 (CST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107274-2002.11.16-00.39.02--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>
> ????
>
> http://carcino.gen.nz/images/index.php/00b9a680/463c5922
>

 http://hpwren.ucsd.edu/Photos/20020204/2-RIMG0049.JPG

 Are they bass fishing??

 P.S.  HPWREN is working with the Navy and have persmission to use those setups.
       Get over it.

       http://hpwren.ucsd.edu/Photos/20020204/

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 112. [ss] Re: Part 15 a very bad idea

From: xlpitlum <multiplx@online.dct.com>
Date: Sat, 16 Nov 2002 00:16:10 -0600 (CST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107275-2002.11.16-01.00.10--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> You have totally missed the point.

  No, I didn't.  The HPWREN project has been going on for years, they even
  testified before Congress, http://hpwren.ucsd.edu/info/testimony.html

  If they were doing something blatantly wrong, I'm sure they would of fixed it.

> But to answer some of your questions, even in war time you are
> authorized to
> operate on some, not all of the frequencies that a SINCGARS radio
> is capable
> of.  You still must go through the AOR (area of responsibility)
> frequency
> manager for permission to use specific channels.

  Those where examples, proving you don't need to get a new license every time
  you key a radio.

> idea why it is allowed for garage openers.  I know that the Navy

  It's a frequency authorized for Part 15 devices to use.

  No, wait, you said the military would never transmit on a Part 15 frequency

without proper authorization (or warning).  Guess I proved you wrong.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
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## 113. [ss] Re: Part 15 a very bad idea

From: "Jeff Edmonson" <w5omr@w5omr.shacknet.nu>
Date: Sat, 16 Nov 2002 06:19:18 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107298-2002.11.16-07.03.15--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>
> > idea why it is allowed for garage openers.  I know that the Navy
>
>   It's a frequency authorized for Part 15 devices to use.
>
>   No, wait, you said the military would never transmit on a Part 15 frequency
>   without proper authorization (or warning).  Guess I proved you wrong.

You are incorrect.  He said that the frequency that garage door openers operated
on were Military frequencies, and he had no idea why there were such devices on
that range of frequencies.

The whole thing is pointless, though and a horrible waste of bandwidth.

No, I'm not talking about Spread Spectrum - I'm referring to your constant (yet
unsuccessful) effort to spew out something that's not true, or try to defame
someone
who is.

Look, Friend - I'd considered it a personal favor if you would only contribute
to the
list, when you've got something POSITIVE to say.


--
73 = Best Regards,



---
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## 114. [ss] WiFi Speed Spray

From: "Eric S. Johansson" <esj@harvee.billerica.ma.us>
Date: Sat, 16 Nov 2002 10:24:04 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107328-2002.11.16-10.09.38--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

a lighter note about part 15 hacks

http://j-walk.com/blog/docs/wifispray.htm



---
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## 115. [ss] RE: WiFi Speed Spray <LYR27907-107328-2002.11.16-10.09.38--rwmcgwier#comcast.net@lists.tapr.org>

From: Robert McGwier <rwmcgwier@comcast.net>
Date: Sat, 16 Nov 2002 11:55:12 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107347-2002.11.16-11.39.55--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Har.  I am going to put it on the shelf in my office right
next to the can of Bull Shit repellant.

Thanks!
Bob

-----Original Message-----
From: bounce-ss-27907@lists.tapr.org
[mailto:bounce-ss-27907@lists.tapr.org]On Behalf Of Eric S. Johansson
Sent: Saturday, November 16, 2002 10:24 AM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] WiFi Speed Spray


a lighter note about part 15 hacks

http://j-walk.com/blog/docs/wifispray.htm



---
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---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 116. [ss] Re: Part 15 a very bad idea

From: Kris Kirby <kris@catonic.net>
Date: Sat, 16 Nov 2002 20:46:18 +0000 (GMT)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107371-2002.11.16-15.30.20--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Fri, 15 Nov 2002, Tony Langdon wrote:
> Well, I'd go for VoIP.  I dunno about H323, it can be a bit ugly, especially
> if you have to stick NAT in to make IPs go around.  I'd experiment with a

What? Huh? um, `whois -a 44.0.0.0'! We've a whole block of routable IPs...

--
Kris Kirby, KE4AHR  <kris@nospam.catonic.net>  TGIFreeBSD IM: 'KrisBSD'
                    "BIG BROTHER IS WATCHING YOU!"
 This message brought to you by the US Department of Homeland Security


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 117. [ss] Re: Part 15 a very bad idea

From: xlpitlum <multiplx@online.dct.com>
Date: Sat, 16 Nov 2002 18:11:46 -0600 (CST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107377-2002.11.16-18.56.05--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> You are incorrect.  He said that the frequency that garage door openers operated
> on were Military frequencies, and he had no idea why there were such devices on
> that range of frequencies.

 Because it proves military operations (through 225 - 400 MHz) *can and do*
 cause interference to civilian Part 15 devices.  Even if it's only accidental.

 We can also prove military operations will interfere with amateur radio
 and Part 15 operations on other bands.  Just ask anyone with a 440 ATV
 or 23 cm ATV repeater near a military base or airport.

>
> The whole thing is pointless, though and a horrible waste of bandwidth.
>
> No, I'm not talking about Spread Spectrum - I'm referring to your constant (yet
> unsuccessful) effort to spew out something that's not true, or try to defame
> someone
> who is.
>
> Look, Friend - I'd considered it a personal favor if you would only contribute
> to the
> list, when you've got something POSITIVE to say.
>

Haha, because it's arrogant to asssume military or government operations
don't effect Part 15 or amateur radio use.  Here's even more proof:

 http://www.qsl.net/n9zia/newlinkpaper.html

Written by *TAPR's own Phil Karn* on how to deal with radar interference on
packet radio links.

Look, Friend - I'd considered it a personal favor if you would only contribute
to the list, when you've got something TRUTHFUL to say.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 118. [ss] Re: Part 15 a very bad idea

From: "Eric S. Johansson" <esj@harvee.billerica.ma.us>
Date: Sat, 16 Nov 2002 21:23:54 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107391-2002.11.16-21.08.14--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Kris Kirby wrote:
> On Fri, 15 Nov 2002, Tony Langdon wrote:
>
>>Well, I'd go for VoIP.  I dunno about H323, it can be a bit ugly, especially
>>if you have to stick NAT in to make IPs go around.  I'd experiment with a
>
>
> What? Huh? um, `whois -a 44.0.0.0'! We've a whole block of routable IPs...

that's irrelevant.  address allocation policy aside, there's no way in
heck I'm going to allow any network direct access to my network except
for very limited ports/services. H.323 is royally broken and doubly so
when you try to cross a security perimeter with address translation.

I think it has something to do with the fact that H.323 was designed by
telephony people instead of by folks who understand networks.  It never
fails but the phone company always makes things more complicated than
they need to be, with less functionality than they could have, and for a
higher price.

---eric

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 119. [ss] Re: Part 15 a very bad idea

From: Gerry Creager N5JXS <gerry.creager@tamu.edu>
Date: Sat, 16 Nov 2002 21:41:00 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107395-2002.11.16-22.24.32--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Just because you have to open 100 or so ports to make it work?  That's
broken?  Oh, come on, now...:-)

SIP's not gonna be much better, although we can do setup reasonably.
We're still a ways from getting a decent VoIP protocol working.

gerry

Eric S. Johansson wrote:
> Kris Kirby wrote:
>
>> On Fri, 15 Nov 2002, Tony Langdon wrote:
>>
>>> Well, I'd go for VoIP.  I dunno about H323, it can be a bit ugly,
>>> especially
>>> if you have to stick NAT in to make IPs go around.  I'd experiment
>>> with a
>>
>>
>>

>> What? Huh? um, `whois -a 44.0.0.0'! We've a whole block of routable
>> IPs...
>
>
> that's irrelevant.  address allocation policy aside, there's no way in
> heck I'm going to allow any network direct access to my network except
> for very limited ports/services. H.323 is royally broken and doubly so
> when you try to cross a security perimeter with address translation.
>
> I think it has something to do with the fact that H.323 was designed by
> telephony people instead of by folks who understand networks.  It never
> fails but the phone company always makes things more complicated than
> they need to be, with less functionality than they could have, and for a
> higher price.
>
> ---eric
>
>
>
> ---
> You are currently subscribed to ss as: gerry.creager@tamu.edu
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org


--
Gerry Creager -- gerry.creager@tamu.edu
Network Engineering, Academy for Advanced Telecommunications
Texas A&M University, College Station, TX
Office: 979.458.4020 FAX: 979.847.8578 Cell: 979.229.5301
Page: 979.228.0173 -or- gcreager@my2way.com


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 120. [ss] Re: Part 15 a very bad idea

From: Walt DuBose <dubose@texas.net>
Date: Sat, 16 Nov 2002 21:53:55 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107396-2002.11.16-22.37.37--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Kris Kirby wrote:
>
> On Fri, 15 Nov 2002, Tony Langdon wrote:
> > Well, I'd go for VoIP.  I dunno about H323, it can be a bit ugly, especially
> > if you have to stick NAT in to make IPs go around.  I'd experiment with a
>
> What? Huh? um, `whois -a 44.0.0.0'! We've a whole block of routable IPs...
>
> --
> Kris Kirby, KE4AHR  <kris@nospam.catonic.net>  TGIFreeBSD IM: 'KrisBSD'
>                     "BIG BROTHER IS WATCHING YOU!"
>  This message brought to you by the US Department of Homeland Security
>
> ---
> You are currently subscribed to ss as: dubose@texas.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

The domain is registered to Brian Kantor, wb6cyt at USCSD and
Bdale Garbee,
KB0G.  Please see http://www.ampr.org

You can contact your local coordinator and get a couple of IP
addresses.

Walt/K5YFW

k5yfw.ampr.org/44.76.2.88

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 121. [ss] Re: Part 15 a very bad idea

From: Gerry Creager N5JXS <gerry.creager@tamu.edu>
Date: Sat, 16 Nov 2002 21:14:40 -0600

To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107393-2002.11.16-21.58.04--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Yes.  But there are still folks using them.  The issue is, NAT and H.323
(for VoIP) do not play well together.

Now:  We can start talking rationally about an IPv6 block for ham radio.
  Then we could incorporate a callsign in the address and go on.

gerry

Kris Kirby wrote:
> On Fri, 15 Nov 2002, Tony Langdon wrote:
>
>>Well, I'd go for VoIP.  I dunno about H323, it can be a bit ugly, especially
>>if you have to stick NAT in to make IPs go around.  I'd experiment with a
>
>
> What? Huh? um, `whois -a 44.0.0.0'! We've a whole block of routable IPs...
>
> --
> Kris Kirby, KE4AHR  <kris@nospam.catonic.net>  TGIFreeBSD IM: 'KrisBSD'
>                    "BIG BROTHER IS WATCHING YOU!"
>  This message brought to you by the US Department of Homeland Security
>
>
> ---
> You are currently subscribed to ss as: gerry.creager@tamu.edu
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org


--
Gerry Creager -- gerry.creager@tamu.edu
Network Engineering, Academy for Advanced Telecommunications
Texas A&M University, College Station, TX
Office: 979.458.4020 FAX: 979.847.8578 Cell: 979.229.5301
Page: 979.228.0173 -or- gcreager@my2way.com


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 122. [ss] Re: Part 15 a very bad idea

From: Jim Sanford <wb4gcs@amsat.org>
Date: Sun, 17 Nov 2002 07:43:29 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107448-2002.11.17-07.27.32--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Walt:
DOn't know about the amp, but the most recent proceedings of microwave
update (2002) has two good articles on extended range linking like
this.  Of note, there's good info on an Alford Slot antenna.  This is a
piece of waveguide with slots in it, oriented vertically, that has
horizontal radiation with a very narrow vertical lobe.  You can build
these for whatever gain you want.

Construction details for a 2.4GHz version in the proceedings (I got mine
from ARRL.)

GOod luck!

73,
Jim
wb4gcs@amsat.org


dubose@texas.net wrote:
>
> I have a slightly different take on the issue; however, agree that this
> "operation" seems to show an intent to disregard FCC Part 15 Regulations if not
> in fact that they do violate the Regulations.
>
> There is MUCH pressure being put on the FCC and Congress, by industry and
> community wireless associations, to deregulate Part 15 further and to allow
> higher EIRPs.  I understand that some community wireless associations are
> asking for primary and exclusive use of 2.4 GHz for wireless digital operation.
> This is very much a threat to the amateur radio existence on the band.

>
> The above alone makes it imperative that we all work together to get
> operational on 2.4 GHz under Part 97 rules ASAP.  I am hopeful that San Antonio
> will have a network operational by the first of the year even if it's with 100
> mw devices.
>
> And let me push here for the use of SMTP and H323 (NetMeeting) voice as the
> first uses of 802.11b operation under Part 97 rules.
>
> We REALLY need a bi-directional amplifier that will take 50-200mw and boost it
> up to 2-3 watts and an horizontally polarized, omni-directional antenna that
> hams can build that has 8-9+ dB gain.  Anyone with solid designs that you have
> built and are working, please let the SIG know about them.
>
> Almost any unregulated/under regulated RF transmissions that are allowed by FCC
> Rules are going to be broken.  Some truckers have discovered FRS and GMRS and
> are running GMRS without a license also they have FRM radios with external
> antennas and 5 watt amplifiers and 9 dB gain antennas.
>
> Walt/K5YFW
>
> > On Thu, 14 Nov 2002 09:57:54 -0500, Robert McGwier wrote:
> > >Commissioners:
> > >
> > >Here is a clear violation of Part 15 being bragged about
> > >in a press release. Part 15 was a bad idea from its
> > >inception since it was inevitable that the "CB mentality"
> > >of "anything goes" would eventually creep in.
> > >
> > I see your point.  As you say here is a press release bragging about
> something
> > illegal.  I can't disagree that Part 15 is needed.  I guess what bugs me is
> the
> > higher allowed PEP/field stength and ERP limits for this type of stuff in the
> > ISM bands.  I doubt Part 15 was intended to be for this type of
> experimentation.
> > But Sec. 15.23 makes you wonder sometimes.  Amateur radio is supposed to be
> > about experimentation.  Yet Part 15 has to be flexible enough to cover all
> the
> > Part 15 devices and allow the end user to make miror repairs.
> >
> > I know it has been said before, maybe unlicenesed wireless ethernet use
> > should be
> > governed by a different part, such as Part 95.  I have no problem with
> FRS/CB.
> > This is because the limits on experimentation are at least somewhat defined.
> > For
> > example I view FRS as a good thing.  (1/2 watt with integrated antennas)
> There
> > is incentive to some degree if you want more flexibility (power and
> > configurations)
> > to look into a licensed service such as ham radio or GMRS.
> >
> >
> > >I am sure that no one intended for Part 15 devices to have hundreds
> > >of watts EIRP.
> >
> > http://www.qsl.net/kb9mwr/projects/wireless/pwr.html
> > I don't really beleive this.  The FCC should know what they were doing when
> they
> > came up with the present Part 15 wording.  However, maybe they didn't expect
> > people to be able pull off such lengthy path-links.
> >
> >
> >
> >
> >
> > ---
> > You are currently subscribed to ss as: dubose@texas.net
> > To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
> >
>
> ---
> You are currently subscribed to ss as: WB4GCS@AMSAT.ORG
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
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## 123. [ss] Re: Part 15 a very bad idea

From: Jim Sanford <wb4gcs@amsat.org>
Date: Sun, 17 Nov 2002 07:59:09 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107449-2002.11.17-07.43.09--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

See Microwave update 2002 for DIY on a 2.4 Ghz Alford Slot.

73,
Jim
wb4gcs@amsat.org

Tony Langdon wrote:
>
> > That is a SUPER design and the dimensions look right and it will
> > be between 6-9 dB gain.
> > probably more like 6.  But they will have some coax loss so I
> > wouldn't complain if they
> > ran one watt out and a 9 dB gain antenna and using 10+ ft of
> > coax.
> >
> > Again its a good antenna, its just vertically polarized and I
> > think most of use are in
> > agreement that we should use horizontal polarization as it
> > isolates us from the Part 15
> > folks and it also seems to have better penetration through
> > foliage.
>
> Well, omnis get harder.  I know the guys in perth were selling a slotted
> waveguide antenna at one stage, but it was expensive and I don't recall any
> DIY details being published.  That might have yielded horizontal
> polarization.
>
> ---
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> Checked by AVG anti-virus system (http://www.grisoft.com).
> Version: 6.0.417 / Virus Database: 233 - Release Date: 8/11/2002
>
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>
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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 124. [ss] Re: Part 15 a very bad idea

From: Jim Sanford <wb4gcs@amsat.org>
Date: Sun, 17 Nov 2002 08:01:40 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107450-2002.11.17-07.45.42--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Walt:
In addition to my earlier post about the latest 2002 Microwave Update,
I've read some good analytical stuff about slots somewhere on the web
recently.  A rectangular waveguid slot CAN be made very omnidirectional.

You might check out W1GHZ's online antenna book.

Good luck!

73,
Jim
wb4gcs@amsat.org

Walt DuBose wrote:
>
> Tony Langdon wrote:
> >
> > > That is a SUPER design and the dimensions look right and it will
> > > be between 6-9 dB gain.
> > > probably more like 6.  But they will have some coax loss so I
> > > wouldn't complain if they
> > > ran one watt out and a 9 dB gain antenna and using 10+ ft of
> > > coax.
> > >
> > > Again its a good antenna, its just vertically polarized and I
> > > think most of use are in
> > > agreement that we should use horizontal polarization as it
> > > isolates us from the Part 15
> > > folks and it also seems to have better penetration through
> > > foliage.
> > >
> > Well, omnis get harder.  I know the guys in perth were selling a slotted
> > waveguide antenna at one stage, but it was expensive and I don't recall any
> > DIY details being published.  That might have yielded horizontal
> > polarization.
> > >
>
> Yes sir...a slotted antenna is hard to manufacturer as some of us
> are finding out.
> You must have a computer milling/punching machine to do it
> correctly.  But we have
> a good design for a 15 dB slot antenna that is omni-directional
> (Ok somewhat omin-
> directional).  I think you really need the slots in a cylinder
> rather than square
> stock to make it truly omni-directional.
>
> Hopefully before I hit the sack tonight I will pull out my 1930's
> antenna manual and
> see if there is a design for stacked loop antennas.  The highest
> frequency that I have
> seen that uses them is on UHF TV channels.
>
> Walt/K5YFW
>
> ---
> You are currently subscribed to ss as: WB4GCS@AMSAT.ORG
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

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## 125. [ss] Re: Part 15 a very bad idea

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Mon, 18 Nov 2002 08:51:01 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107534-2002.11.17-16.35.11--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> CBers that want more than CB have traditionally made
> the transition to amateur radio. We should encourage
> WLANers who want more than "local" LANS to do the same.
> We need to offer carrots as well as sticks. We could
> make amateur radio courses cover more stuff relevant
> to SS & WLAN for VHF-and-above licencees.

That's the same argument I've made here in the past weeks, and one of the reasons I'm active on the local 802.11b comunity (besides it's cool toplay with ;) ).  Many of these guys know little about radio (but are learning fast), and very few have any concept of the broad range of activities that hams partake in.  I've opened a few eyes and made a few people somewhat interested.

Besides doing VoIP over WLAN, I've pulled out the HT and done a few IRLP demos - the reaction you get when an American accent claiming to originate from somewhere in the USA appears on a little HE speaker in full clarity is always one of amazement.  HF gets some interesting responses too, as to most WLAN experimenters, HF ionospheric propagation is akin to black magic (had one guy ask me how the hell the signal got across the country :) ), and one has to explain how the signals get from one place to another, without the

help of the Internet, satellites, etc... Speaking of satellites, I gotta do
a UO-14 demo one day.... :-)

---
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Version: 6.0.417 / Virus Database: 233 - Release Date: 8/11/2002


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## 126. [ss] Re: Part 15 a very bad idea

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Mon, 18 Nov 2002 09:13:41 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107537-2002.11.17-17.13.44--lyris.ss#tapr.org@lists.tapr.org>
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> Now:  We can start talking rationally about an IPv6 block for
> ham radio.
>   Then we could incorporate a callsign in the address and go on.

Now you're talking! :-)

---
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Version: 6.0.417 / Virus Database: 233 - Release Date: 8/11/2002


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## 127. [ss] Re: Part 15 a very bad idea

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Mon, 18 Nov 2002 09:07:34 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107546-2002.11.17-18.13.44--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> What? Huh? um, `whois -a 44.0.0.0'! We've a whole block of
> routable IPs...

Depends how well they're allocated worldwide...  Just like in the case of
the mainstream Internet...

---
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## 128. [ss] Re: Part 15 a very bad idea

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Mon, 18 Nov 2002 17:29:40 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107631-2002.11.18-12.17.08--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Part 15 allows for experimenters to operate without a licence or
 > FCC certification.

The European equivalent "license free" operation is intended
to permit only operation of commercially available equipment.
"Type approved" is what it used to be known as, but since the
introduction of R&TTE directive, it isn't demanded as such.
Equipment suppliers must "self-certify" which still means
independent tests in a facility with equipment with traceable
calibration. If antennas are involved, a calibrated open-air
test site (OATS).

Users who modify their gear become responsible for
demonstrating conformity before putting it in service,
more of a financial impediment to home experimenters.
If you require this much formality & quality, then
it ceases to be experiment; you need to know what you're
doing before you do it.

You can establish conformity by analysis in simple cases,
if, for example, you fit a 10dB gain antenna and reduce
Tx power by 10dB. (Still gives +10dB on link budget.)

* But, there is a requirement for antennas to be "dedicated"
(non-interchangeable) hence the oddball connectors.
As I understand it, this anti-experimentation measure is
required by the FCC who started the idea, did they not?

The new amateur Foundation Licence permits very little
experimentation (modification & construction of transmitters).
The idea being that so few amateurs now actually do this it
seems little point teaching them, testing them and licensing
them to do it unless they want to.

We have amateurs here experimenting with 2.4GHz "video
senders" for ATV. These come license-free from the shops
with 10mW but beget 8W PAs... Are "video senders" a USA
phenomenon too?

Ant

---
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## 129. [ss] Re: Part 15 a very bad idea

From: "Pinfold" <pinfold@xtra.co.nz>
Date: Tue, 19 Nov 2002 07:25:46 +1300
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107646-2002.11.18-13.12.02--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

anybody after 2.4 Ghz ..+20 dBm (100 mW)  video senders for ATV  ham radio
use  cheers Mike ZL1BTB
----- Original Message -----
From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>

To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Sent: Tuesday, November 19, 2002 6:29 AM
Subject: [ss] Re: Part 15 a very bad idea

>
>
>  > Part 15 allows for experimenters to operate without a licence or
>  > FCC certification.
>
> The European equivalent "license free" operation is intended
> to permit only operation of commercially available equipment.
> "Type approved" is what it used to be known as, but since the
> introduction of R&TTE directive, it isn't demanded as such.
> Equipment suppliers must "self-certify" which still means
> independent tests in a facility with equipment with traceable
> calibration. If antennas are involved, a calibrated open-air
> test site (OATS).
>
> Users who modify their gear become responsible for
> demonstrating conformity before putting it in service,
> more of a financial impediment to home experimenters.
> If you require this much formality & quality, then
> it ceases to be experiment; you need to know what you're
> doing before you do it.
>
> You can establish conformity by analysis in simple cases,
> if, for example, you fit a 10dB gain antenna and reduce
> Tx power by 10dB. (Still gives +10dB on link budget.)
>
> * But, there is a requirement for antennas to be "dedicated"
> (non-interchangeable) hence the oddball connectors.
> As I understand it, this anti-experimentation measure is
> required by the FCC who started the idea, did they not?
>
>
> The new amateur Foundation Licence permits very little
> experimentation (modification & construction of transmitters).
> The idea being that so few amateurs now actually do this it
> seems little point teaching them, testing them and licensing
> them to do it unless they want to.
>
> We have amateurs here experimenting with 2.4GHz "video
> senders" for ATV. These come license-free from the shops
> with 10mW but beget 8W PAs... Are "video senders" a USA
> phenomenon too?
>
> Ant
>
>
>
>
>
>
> ---
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## 130. [ss] Re: Part 15 a very bad idea

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Mon, 18 Nov 2002 18:58:38 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107656-2002.11.18-13.45.17--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> http://www.qsl.net/n9zia/newlinkpaper.html

> Written by *TAPR's own Phil Karn* on how to deal with radar interference
on
> packet radio links.

Notice he's also proposing RTS/CTS from 802.11 into AX-25!

Let's go the whole deal and adopt 802.11 for high-rate packet
instead...

The paper could address how the proposed protocol/modulation
can be supported on hand-helds and devices that haven't got
MIPs to burn or PCs to burn them on; laptops; green-PCs,
10-port nodes, emergency, satellite, inaccessible repeater
sites, etc. Given portable C source, DSP power will do it given
cheap small boards in sufficient quantity.

I'm still looking for a cheap palmtop with PCMCIA for a WLAN
card. (And USB for a webcam? - I'd love pocket mobile DV)
Any suggestions?

Ant M1FDE

---
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## 131. [ss] Re: Part 15 a very bad idea

From: Jeff King <jeff@aerodata.net>
Date: Mon, 18 Nov 2002 13:16:52 -0600 (CST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107658-2002.11.18-14.06.09--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

There are plenty of compact flash WLAN (802.11b) cards available specifically
designed to plug into HPC's, got one for my E-100 and many available for the
IPAQ and cheaper ones.

Quoting Anthony N Martin <Anthony.N.Martin@marconi.com>:

> I'm still looking for a cheap palmtop with PCMCIA for a WLAN
> card. (And USB for a webcam? - I'd love pocket mobile DV)
> Any suggestions?

---
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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 132. [ss] Alford slot

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Mon, 18 Nov 2002 20:28:39 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107675-2002.11.18-15.13.52--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> See Microwave update 2002 for DIY on a 2.4 Ghz Alford Slot.

Any links to an on-line version please?

Obviously found this, http://www.microwaveupdate.org/

Seems not yet updated now the conference has passed...

There's an overview here...
http://www2.arrl.org/catalog/proc02.html

But I see no 2.4GHz alford slots.

nb.

A slotted-waveguide antenna is a waveguide with slots in it.
Like this one: http://trevormarshall.com/waveguides.htm

An alford slot is a large diameter coax with a slot in it.

Here's some examples, although single slots are excited

by balun connections to the centre to couple 100% power
into one slot:
http://www.eta.chalmers.se/~pgp/alford_slot/alford_eng.html
http://www.w1ghz.cx/antbook/ch7_part4.pdf

In the long multiple alford slots the slot array is excited
by a centre co-axial rod;  it's like a leaky-feeder coax,
although I've seen some hints probe wires are used on
one edge of each slot to couple power.

Here's some clues about broadcast slot antennas:
http://www.transmitter.com/articles/96/rf-9602.html

Here's a page with an extensive range of homebrew and
some very nice high-performance and expensive antennas.
http://www.wlan.org.uk/antenna-page.html


Slotted waveguides can't produce a very clean omni pattern
(gain varies by 5dB) as the wave up the guide has polarisation,
and slots only radiate on 2 faces of the guide.

The slotted co-ax is round and  can radiate equally from
a slot at any angle round the axis, which should give freedom
to optimise the pattern better. I'd expect the losses to be
higher than waveguide.

Now chaps, what's inside one of these then:
http://www.hyperlinktech.com/web/pdf/hg2415u.pdf
A 15dBi omni, 2.4-2.5GHz,  for $159 .

Ant M1FDE

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 133. [ss] WLAN MAC address fingerprinting

From: "Anthony N Martin" <Anthony.N.Martin@marconi.com>
Date: Mon, 18 Nov 2002 20:48:17 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107688-2002.11.18-15.33.14--lyris.ss#tapr.org@lists.tapr.org>
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This site is trying to build a database of MAC addresses
vs. manufacturers' hardware to allow packet sniffers and the
like to provide more info about what's out there. It may be
very useful if it's interfering with you.

Maybe you want to contribute. I'll add a few to his list
tomorrow.

http://fingerprint.unbolted.net/

He's not trying to build a database that translates MAC
addresses to a user, a grid ref, or other useful info. Hmm,
why not?

Ant M1FDE

---
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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 134. [ss] Re: Alford slot

From: Jeff King <jeff@aerodata.net>
Date: Mon, 18 Nov 2002 15:31:12 -0600 (CST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>

Message-ID: <LYR6751-107690-2002.11.18-16.15.19--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

That is made by comet.

End feed colinear array.

Similar stuff here, except the comet one uses PCB traces:

http://wireless.gumph.org/
http://www.geocities.com/ResearchTriangle/System/5140/2.4colinear.jpg
http://www.tux.org/~bball/antenna/
http://www.aerialix.com/kits/arlx-om2400-all/arlx-om2400-all-inst.html

Quoting Anthony N Martin <Anthony.N.Martin@marconi.com>:

> Now chaps, what's inside one of these then:
> http://www.hyperlinktech.com/web/pdf/hg2415u.pdf
> A 15dBi omni, 2.4-2.5GHz,  for $159 .

---
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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 135. [ss] Re: Part 15 a very bad idea

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Tue, 19 Nov 2002 08:35:13 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107691-2002.11.18-16.19.26--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Users who modify their gear become responsible for
> demonstrating conformity before putting it in service,
> more of a financial impediment to home experimenters.
> If you require this much formality & quality, then
> it ceases to be experiment; you need to know what you're
> doing before you do it.

In Australia, this is normally the case, but with 802.11b gear that has
external antennas, nothing has been mentioned in the Class Licence LCD
(Spread spectrum devices).

> We have amateurs here experimenting with 2.4GHz "video
> senders" for ATV. These come license-free from the shops
> with 10mW but beget 8W PAs... Are "video senders" a USA
> phenomenon too?

We have them here in VK too, but it's a LOT cheaper to build a much better
quality FM ATV transmitter from locally available kits, about 1/3-1/4 of the
price for a basic 50mW 2.4 GHz exciter, and the kit one offers much better
performance and there's a PLL option, if you want more stability and digital
frequency readout.  Even with the PLL option, the kit setup is still
cheaper... I started down this road myself, but got sidetracked by other
projects...

---
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Version: 6.0.417 / Virus Database: 233 - Release Date: 8/11/2002

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## 136. [ss] Re: Alford slot

From: Jim Sanford <wb4gcs@amsat.org>
Date: Mon, 18 Nov 2002 17:25:35 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107694-2002.11.18-17.09.38--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Sorry, I know of no online version, other than the descriptions on the
w1ghz web site:  http://www.w1ghz.org/antbook/preface.htm

73,
Jim
wb4gcs@amsat.org


Anthony N Martin wrote:
>
> > See Microwave update 2002 for DIY on a 2.4 Ghz Alford Slot.
>
> Any links to an on-line version please?
>
> Obviously found this, http://www.microwaveupdate.org/
>
> Seems not yet updated now the conference has passed...
>
> There's an overview here...
> http://www2.arrl.org/catalog/proc02.html
>
> But I see no 2.4GHz alford slots.
>
> nb.
>
> A slotted-waveguide antenna is a waveguide with slots in it.
> Like this one: http://trevormarshall.com/waveguides.htm
>
> An alford slot is a large diameter coax with a slot in it.
>
> Here's some examples, although single slots are excited
> by balun connections to the centre to couple 100% power
> into one slot:
> http://www.eta.chalmers.se/~pgp/alford_slot/alford_eng.html
> http://www.w1ghz.cx/antbook/ch7_part4.pdf
>
> In the long multiple alford slots the slot array is excited
> by a centre co-axial rod;  it's like a leaky-feeder coax,
> although I've seen some hints probe wires are used on
> one edge of each slot to couple power.
>
> Here's some clues about broadcast slot antennas:
> http://www.transmitter.com/articles/96/rf-9602.html
>
> Here's a page with an extensive range of homebrew and
> some very nice high-performance and expensive antennas.
> http://www.wlan.org.uk/antenna-page.html
>
> Slotted waveguides can't produce a very clean omni pattern
> (gain varies by 5dB) as the wave up the guide has polarisation,
> and slots only radiate on 2 faces of the guide.
>
> The slotted co-ax is round and  can radiate equally from
> a slot at any angle round the axis, which should give freedom
> to optimise the pattern better. I'd expect the losses to be
> higher than waveguide.
>
> Now chaps, what's inside one of these then:
> http://www.hyperlinktech.com/web/pdf/hg2415u.pdf
> A 15dBi omni, 2.4-2.5GHz,  for $159 .
>
> Ant M1FDE
>
> ---
> You are currently subscribed to ss as: WB4GCS@AMSAT.ORG
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
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## 137. [ss] Re: ss digest: November 17, 2002

From: "John Champa" <k8ocl@hotmail.com>
Date: Mon, 18 Nov 2002 18:04:27 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107696-2002.11.18-17.48.43--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Jim,

Thanks for the suggestion regarding the slot antenna, but have you actually tried to build one? They are very difficult to make because of the extreme precision required at our SS center test frequency (2437 MHz). Also, they are not very "omni" with at least 6 dB variation in field strength as you move about the far field of the antenna.

To date, the local HSMM Experimenters Team (Livingston County, Michigan)has been unsuccessful in getting one of the slots to work as expected, or even load properly (VSWR of <2:1 across the entire 22 MHz bandwidth of the signal from 2426-2448 MHz). We are currently investigating stacked loop dipoles with varied resonances (if they were all perfectly resonant they would only have a bandwidth of about 8-10 MHz...too narrow for SS, in our opinion).

Any other recommendations would be most welcomed and needed.

Vy 73,
John Champa, K8OCL
ARRL Chairman
High Speed Multimedia Working Group

From: "TAPR Spread Spectrum Special Interest Group digest"
<ss@lists.tapr.org>
Reply-To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
To: "ss digest recipients" <ss@lists.tapr.org>
Subject: ss digest: November 17, 2002
Date: Mon, 18 Nov 2002 00:00:13 -0500

TAPR Spread Spectrum Special Interest Group Digest for Sunday, November 17, 2002.

1. Re: Part 15 a very bad idea
2. Re: Part 15 a very bad idea
3. Re: Part 15 a very bad idea
4. Re: Part 15 a very bad idea
5. Re: Part 15 a very bad idea
6. Re: Part 15 a very bad idea

---

Subject: Re: Part 15 a very bad idea
From: Jim Sanford <wb4gcs@amsat.org>
Date: Sun, 17 Nov 2002 07:43:29 -0500
X-Message-Number: 1

Walt:
DOn't know about the amp, but the most recent proceedings of microwave update (2002) has two good articles on extended range linking like this. Of note, there's good info on an Alford Slot antenna. This is a piece of waveguide with slots in it, oriented vertically, that has horizontal radiation with a very narrow vertical lobe. You can build these for whatever gain you want.

Construction details for a 2.4GHz version in the proceedings (I got mine from ARRL.)

GOod luck!

73,
Jim
wb4gcs@amsat.org

dubose@texas.net wrote:
> I have a slightly different take on the issue; however, agree that this
> "operation" seems to show an intent to disregard FCC Part 15 Regulations if not
> in fact that they do violate the Regulations.
>
> There is MUCH pressure being put on the FCC and Congress, by industry and

> community wireless associations, to deregulate Part 15 further and to allow
> higher EIRPs.  I understand that some community wireless associations are
> asking for primary and exclusive use of 2.4 GHz for wireless digital operation.
> This is very much a threat to the amateur radio existence on the band.
>
> The above alone makes it imperative that we all work together to get
> operational on 2.4 GHz under Part 97 rules ASAP.  I am hopeful that San Antonio
> will have a network operational by the first of the year even if it's with 100
> mw devices.
>
> And let me push here for the use of SMTP and H323 (NetMeeting) voice as the
> first uses of 802.11b operation under Part 97 rules.
>
> We REALLY need a bi-directional amplifier that will take 50-200mw and boost it
> up to 2-3 watts and an horizontally polarized, omni-directional antenna that
> hams can build that has 8-9+ dB gain.  Anyone with solid designs that you have
> built and are working, please let the SIG know about them.
>
> Almost any unregulated/under regulated RF transmissions that are allowed by FCC
> Rules are going to be broken.  Some truckers have discovered FRS and GMRS and
> are running GMRS without a license also they have FRM radios with external
> antennas and 5 watt amplifiers and 9 dB gain antennas.
>
> Walt/K5YFW
>
> > On Thu, 14 Nov 2002 09:57:54 -0500, Robert McGwier wrote:
> > >Commissioners:
> > >
> > >Here is a clear violation of Part 15 being bragged about
> > >in a press release. Part 15 was a bad idea from its
> > >inception since it was inevitable that the "CB mentality"
> > >of "anything goes" would eventually creep in.
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> > I see your point.  As you say here is a press release bragging about
> something
> > illegal.  I can't disagree that Part 15 is needed.  I guess what bugs me is
> the
> > higher allowed PEP/field stength and ERP limits for this type of stuff in the
> > ISM bands.  I doubt Part 15 was intended to be for this type of
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> > But Sec. 15.23 makes you wonder sometimes.  Amateur radio is supposed to be
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> > This is because the limits on experimentation are at least somewhat defined.
> > For
> > example I view FRS as a good thing.  (1/2 watt with integrated antennas)
> There
> > is incentive to some degree if you want more flexibility (power and
> > configurations)
> > to look into a licensed service such as ham radio or GMRS.
> >
> >
> > >I am sure that no one intended for Part 15 devices to have hundreds
> > >of watts EIRP.
> >
> > http://www.qsl.net/kb9mwr/projects/wireless/pwr.html

> > I don't really beleive this.  The FCC should know what they were doing
when
> they
> > came up with the present Part 15 wording.  However, maybe they didn't
expect
> > people to be able pull off such lengthy path-links.
> >
> >
> >
> >
> >
> > ---
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>
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---

Subject: Re: Part 15 a very bad idea
From: Jim Sanford <wb4gcs@amsat.org>
Date: Sun, 17 Nov 2002 07:59:09 -0500
X-Message-Number: 2

See Microwave update 2002 for DIY on a 2.4 Ghz Alford Slot.


73,
Jim
wb4gcs@amsat.org


Tony Langdon wrote:
>
> > That is a SUPER design and the dimensions look right and it will
> > be between 6-9 dB gain.
> > probably more like 6.  But they will have some coax loss so I
> > wouldn't complain if they
> > ran one watt out and a 9 dB gain antenna and using 10+ ft of
> > coax.
> >
> > Again its a good antenna, its just vertically polarized and I
> > think most of use are in
> > agreement that we should use horizontal polarization as it
> > isolates us from the Part 15
> > folks and it also seems to have better penetration through
> > foliage.
>
> Well, omnis get harder.  I know the guys in perth were selling a slotted
> waveguide antenna at one stage, but it was expensive and I don't recall
any
> DIY details being published.  That might have yielded horizontal
> polarization.
>
> ---
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> Version: 6.0.417 / Virus Database: 233 - Release Date: 8/11/2002
>
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---

Subject: Re: Part 15 a very bad idea
From: Jim Sanford <wb4gcs@amsat.org>
Date: Sun, 17 Nov 2002 08:01:40 -0500
X-Message-Number: 3
Walt:
In addition to my earlier post about the latest 2002 Microwave Update,
I've read some good analytical stuff about slots somewhere on the web
recently.  A rectangular waveguid slot CAN be made very omnidirectional.

You might check out W1GHZ's online antenna book.

Good luck!

73,
Jim
wb4gcs@amsat.org


Walt DuBose wrote:
>
> Tony Langdon wrote:
> >
> > > That is a SUPER design and the dimensions look right and it will
> > > be between 6-9 dB gain.
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> >
> > Well, omnis get harder.  I know the guys in perth were selling a
slotted
> > waveguide antenna at one stage, but it was expensive and I don't recall
any
> > DIY details being published.  That might have yielded horizontal
> > polarization.
> >
>
> Yes sir...a slotted antenna is hard to manufacturer as some of us
> are finding out.
> You must have a computer milling/punching machine to do it
> correctly.  But we have
> a good design for a 15 dB slot antenna that is omni-directional
> (Ok somewhat omin-
> directional).  I think you really need the slots in a cylinder
> rather than square
> stock to make it truly omni-directional.
>
> Hopefully before I hit the sack tonight I will pull out my 1930's
> antenna manual and
> see if there is a design for stacked loop antennas.  The highest
> frequency that I have
> seen that uses them is on UHF TV channels.
>
> Walt/K5YFW
>
> ---
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---

Subject: Re: Part 15 a very bad idea
From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Mon, 18 Nov 2002 08:51:01 +1100
X-Message-Number: 4

> CBers that want more than CB have traditionally made
> the transition to amateur radio. We should encourage

> WLANers who want more than "local" LANS to do the same.
> We need to offer carrots as well as sticks. We could
> make amateur radio courses cover more stuff relevant
> to SS & WLAN for VHF-and-above licencees.

That's the same argument I've made here in the past weeks, and one of =
the
reasons I'm active on the local 802.11b comunity (besides it's cool =
toplay
with ;) ).  Many of these guys know little about radio (but are =
learning
fast), and very few have any concept of the broad range of activities =
that
hams partake in.  I've opened a few eyes and made a few people somewhat
interested.

Besides doing VoIP over WLAN, I've pulled out the HT and done a few =
IRLP
demos - the reaction you get when an American accent claiming to =
originate
from somewhere in the USA appears on a little HE speaker in full =
clarity is
always one of amazement.  HF gets some interesting responses too, as to =
most
WLAN experimenters, HF ionospheric propagation is akin to black magic =
(had
one guy ask me how the hell the signal got across the country :) ), and =
one
has to explain how the signals get from one place to another, without =
the
help of the Internet, satellites, etc... Speaking of satellites, I =
gotta do
a UO-14 demo one day.... :-)

---
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sender.


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Subject: Re: Part 15 a very bad idea
From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Mon, 18 Nov 2002 09:13:41 +1100
X-Message-Number: 5

> Now:  We can start talking rationally about an IPv6 block for=20
> ham radio.=20
>   Then we could incorporate a callsign in the address and go on.

Now you're talking! :-)

---
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------------------------------------------------------------------------

Subject: Re: Part 15 a very bad idea
From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Mon, 18 Nov 2002 09:07:34 +1100
X-Message-Number: 6

 > What? Huh? um, `whois -a 44.0.0.0'! We've a whole block of=20
 > routable IPs...

Depends how well they're allocated worldwide...  Just like in the case =
of
the mainstream Internet...

---
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## 138. [ss] Re: ss digest: November 17, 2002

From: Jim Sanford <wb4gcs@amsat.org>
Date: Mon, 18 Nov 2002 19:07:16 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107704-2002.11.18-18.51.29--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Walt:
I have not (yet) built one, but intend to for 10GHz eventually.

The W1GHz web site has a bunch of practical how to including how to get

it right.  Allegedly, these things can be very omnidirectional if you
put "wings" on them.  This is corroborated in the Microwave Update 2002
proceedings with an article by a guy who has built some for 2.4GHZ
802.11 use.

I also know a guy who has built at least one for 10GHz and is very
pleased with how it works.  I think the guys in CA who are using TWTs in
OCAR service on 10GHz are also pleased with their homebrew slots.

Whichever way you go,  bets of luck, and please share what you decide
and how it works.

73,
Jim
wb4gcs@amsat.org


John Champa wrote:
>
> Jim,
>
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> tried to build one?  They are very difficult to make because of the extreme
> precision required at our SS center test frequency (2437 MHz).  Also, they
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> John Champa, K8OCL
> ARRL Chairman
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> Reply-To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
> To: "ss digest recipients" <ss@lists.tapr.org>
> Subject: ss digest: November 17, 2002
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> Subject: Re: Part 15 a very bad idea
> From: Jim Sanford <wb4gcs@amsat.org>
> Date: Sun, 17 Nov 2002 07:59:09 -0500
> X-Message-Number: 2
>
> See Microwave update 2002 for DIY on a 2.4 Ghz Alford Slot.
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> 73,
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> wb4gcs@amsat.org
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>  > > Again its a good antenna, its just vertically polarized and I
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>  > > agreement that we should use horizontal polarization as it
>  > > isolates us from the Part 15
>  > > folks and it also seems to have better penetration through
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> Subject: Re: Part 15 a very bad idea
> From: Jim Sanford <wb4gcs@amsat.org>
> Date: Sun, 17 Nov 2002 08:01:40 -0500
> X-Message-Number: 3
>
> Walt:
> In addition to my earlier post about the latest 2002 Microwave Update,
> I've read some good analytical stuff about slots somewhere on the web
> recently.  A rectangular waveguid slot CAN be made very omnidirectional.
>
> You might check out W1GHZ's online antenna book.
>
> Good luck!
>
> 73,
> Jim
> wb4gcs@amsat.org
>
> Walt DuBose wrote:
>  >
>  > Tony Langdon wrote:
>  > >
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>  > (Ok somewhat omin-
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>  > rather than square
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>  > Walt/K5YFW
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> From: Tony Langdon <tlangdon@atctraining.com.au>
> Date: Mon, 18 Nov 2002 08:51:01 +1100
> X-Message-Number: 4
> 
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>  > the transition to amateur radio. We should encourage
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> Subject: Re: Part 15 a very bad idea
> From: Tony Langdon <tlangdon@atctraining.com.au>
> Date: Mon, 18 Nov 2002 09:13:41 +1100
> X-Message-Number: 5
> 
>  > Now:  We can start talking rationally about an IPv6 block for=20
>  > ham radio.=20
>  >   Then we could incorporate a callsign in the address and go on.
> 
> Now you're talking! :-)
> 
> ---

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>
> Subject: Re: Part 15 a very bad idea
> From: Tony Langdon <tlangdon@atctraining.com.au>
> Date: Mon, 18 Nov 2002 09:07:34 +1100
> X-Message-Number: 6
>
>  > What? Huh? um, `whois -a 44.0.0.0'! We've a whole block of=20
>  > routable IPs...
>
> Depends how well they're allocated worldwide...  Just like in the case =
> of
> the mainstream Internet...
>
> ---
> Outgoing mail has been scanned for Viruses
> Checked by AVG anti-virus system (http://www.grisoft.com).
> Version: 6.0.417 / Virus Database: 233 - Release Date: 8/11/2002
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> ---
>
> END OF DIGEST
>
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> http://join.msn.com/?page=features/featuredemail
>
> ---
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---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 139. [ss] Re: ss digest: November 17, 2002

From: Walt DuBose <dubose@texas.net>
Date: Mon, 18 Nov 2002 19:48:58 -0600

To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107711-2002.11.18-20.32.47--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Jim,

I think the problem with 2.4 is that everyone is using rectangle
stock and it
should be round but at 10 GHz, they use tubing stock.

I really think that stacked loops are better for 2.4

Walt

Jim Sanford wrote:
>
> Walt:
> I have not (yet) built one, but intend to for 10GHz eventually.
>
> The W1GHz web site has a bunch of practical how to including how to get
> it right.  Allegedly, these things can be very omnidirectional if you
> put "wings" on them.  This is corroborated in the Microwave Update 2002
> proceedings with an article by a guy who has built some for 2.4GHZ
> 802.11 use.
>
> I also know a guy who has built at least one for 10GHz and is very
> pleased with how it works.  I think the guys in CA who are using TWTs in
> OCAR service on 10GHz are also pleased with their homebrew slots.
>
> Whichever way you go,  bets of luck, and please share what you decide
> and how it works.
>
> 73,
> Jim
> wb4gcs@amsat.org
>
> John Champa wrote:
> >
> > Jim,
> >
> > Thanks for the suggestion regarding the slot antenna, but have you actually
> > tried to build one?  They are very difficult to make because of the extreme
> > precision required at our SS center test frequency (2437 MHz).  Also, they
> > are not very "omni" with at least 6 dB variation in field strength as you
> > move about the far field of the antenna.
> >
> > To date, the local HSMM Experimenters Team (Livingston County, Michigan)has
> > been unsuccessful in getting one of the slots to work as expected, or even
> > load properly (VSWR of <2:1 across the entire 22 MHz bandwidth of the signal
> > from 2426-2448 MHz).  We are currently investigating stacked loop dipoles
> > with varied resonances (if they were all perfectly resonant they would only
> > have a bandwidth of about 8-10 MHz...too narrow for SS, in our opinion).
> >
> > Any other recommendations would be most welcomed and needed.
> >
> > Vy 73,
> > John Champa, K8OCL
> > ARRL Chairman
> > High Speed Multimedia Working Group
> >
> > From: "TAPR Spread Spectrum Special Interest Group digest"
> > <ss@lists.tapr.org>
> > Reply-To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
> > To: "ss digest recipients" <ss@lists.tapr.org>
> > Subject: ss digest: November 17, 2002
> > Date: Mon, 18 Nov 2002 00:00:13 -0500
> >
> > TAPR Spread Spectrum Special Interest Group Digest for Sunday, November 17,
> > 2002.
> >
> > 1. Re: Part 15 a very bad idea
> > 2. Re: Part 15 a very bad idea
> > 3. Re: Part 15 a very bad idea
> > 4. Re: Part 15 a very bad idea
> > 5. Re: Part 15 a very bad idea
> > 6. Re: Part 15 a very bad idea
> >
> > ----------------------------------------------------------------------
> >
> > Subject: Re: Part 15 a very bad idea

> > From: Jim Sanford <wb4gcs@amsat.org>
> > Date: Sun, 17 Nov 2002 07:43:29 -0500
> > X-Message-Number: 1
> >
> > Walt:
> > DOn't know about the amp, but the most recent proceedings of microwave
> > update (2002) has two good articles on extended range linking like
> > this.  Of note, there's good info on an Alford Slot antenna.  This is a
> > piece of waveguide with slots in it, oriented vertically, that has
> > horizontal radiation with a very narrow vertical lobe.  You can build
> > these for whatever gain you want.
> >
> > Construction details for a 2.4GHz version in the proceedings (I got mine
> > from ARRL.)
> >
> > GOod luck!
> >
> > 73,
> > Jim
> > wb4gcs@amsat.org
> >
> > dubose@texas.net wrote:
> >  >
> >  > I have a slightly different take on the issue; however, agree that this
> >  > "operation" seems to show an intent to disregard FCC Part 15 Regulations
> > if not
> >  > in fact that they do violate the Regulations.
> >  >
> >  > There is MUCH pressure being put on the FCC and Congress, by industry and
> >  > community wireless associations, to deregulate Part 15 further and to
> > allow
> >  > higher EIRPs.  I understand that some community wireless associations are
> >  > asking for primary and exclusive use of 2.4 GHz for wireless digital
> > operation.
> >  > This is very much a threat to the amateur radio existence on the band.
> >  >
> >  > The above alone makes it imperative that we all work together to get
> >  > operational on 2.4 GHz under Part 97 rules ASAP.  I am hopeful that San
> > Antonio
> >  > will have a network operational by the first of the year even if it's
> > with 100
> >  > mw devices.
> >  >
> >  > And let me push here for the use of SMTP and H323 (NetMeeting) voice as
> > the
> >  > first uses of 802.11b operation under Part 97 rules.
> >  >
> >  > We REALLY need a bi-directional amplifier that will take 50-200mw and
> > boost it
> >  > up to 2-3 watts and an horizontally polarized, omni-directional antenna
> > that
> >  > hams can build that has 8-9+ dB gain.  Anyone with solid designs that you
> > have
> >  > built and are working, please let the SIG know about them.
> >  >
> >  > Almost any unregulated/under regulated RF transmissions that are allowed
> > by FCC
> >  > Rules are going to be broken.  Some truckers have discovered FRS and GMRS
> > and
> >  > are running GMRS without a license also they have FRM radios with
> > external
> >  > antennas and 5 watt amplifiers and 9 dB gain antennas.
> >  >
> >  > Walt/K5YFW
> >  >
> >  > > On Thu, 14 Nov 2002 09:57:54 -0500, Robert McGwier wrote:
> >  > > >Commissioners:
> >  > > >
> >  > > >Here is a clear violation of Part 15 being bragged about
> >  > > >in a press release. Part 15 was a bad idea from its
> >  > > >inception since it was inevitable that the "CB mentality"
> >  > > >of "anything goes" would eventually creep in.
> >  > > >
> >  > > I see your point.  As you say here is a press release bragging about
> >  > something
> >  > > illegal.  I can't disagree that Part 15 is needed.  I guess what bugs
> > me is
> >  > the
> >  > > higher allowed PEP/field stength and ERP limits for this type of stuff

> > in the
> >  > > ISM bands.  I doubt Part 15 was intended to be for this type of
> >  > experimentation.
> >  > > But Sec. 15.23 makes you wonder sometimes.  Amateur radio is supposed
> > to be
> >  > > about experimentation.  Yet Part 15 has to be flexible enough to cover
> > all
> >  > the
> >  > > Part 15 devices and allow the end user to make miror repairs.
> >  > >
> >  > > I know it has been said before, maybe unlicenesed wireless ethernet use
> >  > > should be
> >  > > governed by a different part, such as Part 95.  I have no problem with
> >  > FRS/CB.
> >  > > This is because the limits on experimentation are at least somewhat
> > defined.
> >  > > For
> >  > > example I view FRS as a good thing.  (1/2 watt with integrated
> > antennas)
> >  > There
> >  > > is incentive to some degree if you want more flexibility (power and
> >  > > configurations)
> >  > > to look into a licensed service such as ham radio or GMRS.
> >  > >
> >  > >
> >  > > >I am sure that no one intended for Part 15 devices to have hundreds
> >  > > >of watts EIRP.
> >  > >
> >  > > http://www.qsl.net/kb9mwr/projects/wireless/pwr.html
> >  > > I don't really beleive this.  The FCC should know what they were doing
> > when
> >  > they
> >  > > came up with the present Part 15 wording.  However, maybe they didn't
> > expect
> >  > > people to be able pull off such lengthy path-links.
> >  > >
> >  > >
> >  > >
> >  > >
> >  > >
> >  > > ---
> >  > > You are currently subscribed to ss as: dubose@texas.net
> >  > > To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
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> >
> > Subject: Re: Part 15 a very bad idea
> > From: Jim Sanford <wb4gcs@amsat.org>
> > Date: Sun, 17 Nov 2002 07:59:09 -0500
> > X-Message-Number: 2
> >
> > See Microwave update 2002 for DIY on a 2.4 Ghz Alford Slot.
> >
> > 73,
> > Jim
> > wb4gcs@amsat.org
> >
> > Tony Langdon wrote:
> >  >
> >  > > That is a SUPER design and the dimensions look right and it will
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> > Date: Mon, 18 Nov 2002 08:51:01 +1100
> > X-Message-Number: 4
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> > From: Tony Langdon <tlangdon@atctraining.com.au>
> > Date: Mon, 18 Nov 2002 09:13:41 +1100
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> >  > Now:  We can start talking rationally about an IPv6 block for=20
> >  > ham radio.=20
> >  >   Then we could incorporate a callsign in the address and go on.
> >
> > Now you're talking! :-)
> >
> > ---
> > Outgoing mail has been scanned for Viruses
> > Checked by AVG anti-virus system (http://www.grisoft.com).
> > Version: 6.0.417 / Virus Database: 233 - Release Date: 8/11/2002
> > =20
> >
> > This correspondence is for the named person=92s use only. It may =
> > contain
> > confidential or legally privileged information or both. No =
> > confidentiality
> > or privilege is waived or lost by any mistransmission. If you receive =
> > this
> > correspondence in error, please immediately delete it from your system =
> > and
> > notify the sender. You must not disclose, copy or rely on any part of =
> > this
> > correspondence if you are not the intended recipient.
> >
> > Any opinions expressed in this message are those of the individual =
> > sender.
> >
> > ---------------------------------------------------------------------
> >
> > Subject: Re: Part 15 a very bad idea
> > From: Tony Langdon <tlangdon@atctraining.com.au>
> > Date: Mon, 18 Nov 2002 09:07:34 +1100
> > X-Message-Number: 6
> >
> >  > What? Huh? um, `whois -a 44.0.0.0'! We've a whole block of=20
> >  > routable IPs...
> >
> > Depends how well they're allocated worldwide...  Just like in the case =
> > of
> > the mainstream Internet...
> >
> > ---
> > Outgoing mail has been scanned for Viruses
> > Checked by AVG anti-virus system (http://www.grisoft.com).
> > Version: 6.0.417 / Virus Database: 233 - Release Date: 8/11/2002
> > =20
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> > This correspondence is for the named person=92s use only. It may =
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> > confidentiality
> > or privilege is waived or lost by any mistransmission. If you receive =
> > this
> > correspondence in error, please immediately delete it from your system =
> > and
> > notify the sender. You must not disclose, copy or rely on any part of =
> > this
> > correspondence if you are not the intended recipient.
> >
> > Any opinions expressed in this message are those of the individual =
> > sender.
> >
> > ---
> >
> > END OF DIGEST
> >
> > ---
> > You are currently subscribed to ss as: k8ocl@hotmail.com
> > To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

> >
> > _____
> > Add photos to your messages with MSN 8. Get 2 months FREE*.
> > http://join.msn.com/?page=features/featuredemail
> >
> > ---
> > You are currently subscribed to ss as: WB4GCS@AMSAT.ORG
> > To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
> ---
> You are currently subscribed to ss as: dubose@texas.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 140. [ss] Re: ss digest: November 17, 2002

From: Kerry Banke <kbanke@qualcomm.com>
Date: Tue, 19 Nov 2002 10:19:31 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-107828-2002.11.19-13.03.44--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

A good number of the slotted waveguide antennas are in use around the world for X-Band beacon use as well as our X-Band OCAR as mentioned. A number of us have used them mobile as well. There does however seem to be issues in using the same designs at 2.4 Ghz. Chuck Swedblom , WA6EXV of the SBMS has been building and testing slotted waveguide antennas for a 2.3 GHz translator/repeater and ran into problems with the original design software as published on the W1GHZ website. If you want to use that type of antenna at S-Band, I'd recommend contacting Chuck (chuckswed@juno.com) about the corrections he had to make to get expected performance. I have also had very poor luck with the Alford slot designs for some reason. I currently use one on 1296 for taking checkins to our SDMG microwave net but never obtained near the stated gain.
- Kerry N6IZW -

At 07:07 PM 11/18/02 -0500, you wrote:
>Walt:
>I have not (yet) built one, but intend to for 10GHz eventually.
>
>The W1GHz web site has a bunch of practical how to including how to get
>it right. Allegedly, these things can be very omnidirectional if you
>put "wings" on them. This is corroborated in the Microwave Update 2002
>proceedings with an article by a guy who has built some for 2.4GHZ
>802.11 use.
>
>I also know a guy who has built at least one for 10GHz and is very
>pleased with how it works. I think the guys in CA who are using TWTs in
>OCAR service on 10GHz are also pleased with their homebrew slots.
>
>Whichever way you go, bets of luck, and please share what you decide
>and how it works.
>
>73,
>Jim
>wb4gcs@amsat.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 141. [ss] more part 15 spectrum proposed

From: "Eric S. Johansson" <esj@harvee.billerica.ma.us>
Date: Thu, 21 Nov 2002 16:35:45 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108125-2002.11.21-16.20.01--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

http://www.internetnews.com/wireless/article.php/1545891

Senators George Allen (R.-Va.) and Barbara Boxer (D.-Ca.) are circulating a draft bill to gain early support in the 108th Congress to promote a wireless approach to broadband deployment. An Allen spokesperson said the bill and accompanying "Dear Colleague" letter are

efforts to "get beyond the stalemated debate of cable versus DSL."

The draft legislation calls for the Federal Communications Commission to
allocate not less than 255 megahertz of contiguous spectrum below 6
gigahertz for unlicensed use by wireless broadband devices.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 142. [ss] Fwd: [BAWUG] HPWREN reduces power on 72-mile WLAN link

From: Jeff King <jeff@aerodata.net>
Date: Thu, 21 Nov 2002 19:27:26 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108136-2002.11.21-19.11.55--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

FYI

--- Original Message ---
From: "Jack Grimes" <jgrimes@grimesonline.com>
To: Wireless List List <wireless@lists.bawug.org>
Cc:
Sent: Thu, 21 Nov 2002 14:48:56 -0800
Subject: [BAWUG] HPWREN reduces power on 72-mile WLAN link

>HPWREN reduces power on 72-mile WLAN link
>
>Responding to complaints, the High Performance Wireless Research and
>Education Network has reduced power on a 72-mile, 2.4-GHz link it
>maintains
>from San Diego to San Clemente Island.
>
>Full article at:
>http://computerworld.com/newsletter/0%2C4902%2C76118%2C0.html?nlid=PM
>
>
>They reduced the power from 1W to 250mW. I wonder if this isn't
>still above
>the 1W EIRP due to their antenna's gain. Data rate dropped to
>~300KBits/sec.
>Still, 72 miles is remarkable!
>--jack

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 143. [ss] Re: Fwd: [BAWUG] HPWREN reduces power on 72-mile WLAN link

From: Walt DuBose <dubose@texas.net>
Date: Thu, 21 Nov 2002 21:30:22 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108172-2002.11.21-22.14.17--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Quoting Jeff..."They reduced the power from 1W to 250mW. I wonder
if this isn't
still above the 1W EIRP due to their antenna's gain..."

Using the decibel conversion calculator at
http://www.ecommwireless.com/calculations.html,
250 mw is 23.9 dB.  23.9 dB xmit power plus a 24 dB gain antenna
is 47.9 dB or 61,659 mw
0r 61.659 watts.  Hummmm Ok, I'll give them 3 dB coax and
connector loss.  But, YES, I'd
say they were still illegal since Part 15 only allows for 33 dB
EIRP (1.995 watts).

Jeff King wrote:
>
> FYI

>
> --- Original Message ---
> From: "Jack Grimes" <jgrimes@grimesonline.com>
> To: Wireless List List <wireless@lists.bawug.org>
> Cc:
> Sent: Thu, 21 Nov 2002 14:48:56 -0800
> Subject: [BAWUG] HPWREN reduces power on 72-mile WLAN link
>
> >HPWREN reduces power on 72-mile WLAN link
> >
> >Responding to complaints, the High Performance Wireless Research and
> >Education Network has reduced power on a 72-mile, 2.4-GHz link it
> >maintains
> >from San Diego to San Clemente Island.
> >
> >Full article at:
> >http://computerworld.com/newsletter/0%2C4902%2C76118%2C0.html?nlid=PM
> >
> >
> >They reduced the power from 1W to 250mW. I wonder if this isn't
> >still above
> >the 1W EIRP due to their antenna's gain. Data rate dropped to
> >~300KBits/sec.
> >Still, 72 miles is remarkable!
> >--jack
>
> ---
> You are currently subscribed to ss as: dubose@texas.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 144. [ss] Re: [BAWUG] HPWREN reduces power on 72-mile WLAN link

From: Gerry Creager N5JXS <gerry.creager@tamu.edu>
Date: Thu, 21 Nov 2002 21:42:53 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108174-2002.11.21-22.26.29--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I guess I'm frustrated here.  All I'm seeing is righteous indignation.

These guys pushed a 2 GHz signal out *72* *MILES* on 1 watt RF, and
admittedly plenty of antenna.  I feel obligated to point out that this
is beyond the visual and RF horizons, that they're obviously taking
advantage of refraction in the sea-surface boundary layer, and that
precious few on this list have achieved anything similar.

They responded to the complaints by reducing power.

And the research data they're bringing back in happens to be fairly
significant, and is now being relayed for a significantly lower cost
than INMARSAT, or other alternatives.

So: Why is everyone still bitching?

gerry

Walt DuBose wrote:
> Quoting Jeff..."They reduced the power from 1W to 250mW. I wonder
> if this isn't
> still above the 1W EIRP due to their antenna's gain..."
>
> Using the decibel conversion calculator at
> http://www.ecommwireless.com/calculations.html,
> 250 mw is 23.9 dB.  23.9 dB xmit power plus a 24 dB gain antenna
> is 47.9 dB or 61,659 mw
> 0r 61.659 watts.  Hummmm Ok, I'll give them 3 dB coax and
> connector loss.  But, YES, I'd
> say they were still illegal since Part 15 only allows for 33 dB
> EIRP (1.995 watts).
>
> Jeff King wrote:
>
>>FYI
>>
>>--- Original Message ---
>>From: "Jack Grimes" <jgrimes@grimesonline.com>

>>To: Wireless List List <wireless@lists.bawug.org>
>>Cc:
>>Sent: Thu, 21 Nov 2002 14:48:56 -0800
>>Subject: [BAWUG] HPWREN reduces power on 72-mile WLAN link
>>
>>
>>>HPWREN reduces power on 72-mile WLAN link
>>>
>>>Responding to complaints, the High Performance Wireless Research and
>>>Education Network has reduced power on a 72-mile, 2.4-GHz link it
>>>maintains
>>
>>>from San Diego to San Clemente Island.
>>
>>>Full article at:
>>>http://computerworld.com/newsletter/0%2C4902%2C76118%2C0.html?nlid=PM
>>>
>>>
>>>They reduced the power from 1W to 250mW. I wonder if this isn't
>>>still above
>>>the 1W EIRP due to their antenna's gain. Data rate dropped to
>>>~300KBits/sec.
>>>Still, 72 miles is remarkable!
>>>--jack
>>
>>---
>>You are currently subscribed to ss as: dubose@texas.net
>>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>
> ---
> You are currently subscribed to ss as: gerry.creager@tamu.edu
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org


--
Gerry Creager -- gerry.creager@tamu.edu
Network Engineering, Academy for Advanced Telecommunications
Texas A&M University, College Station, TX
Office: 979.458.4020 FAX: 979.847.8578 Cell: 979.229.5301
Page: 979.228.0173 -or- gcreager@my2way.com


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 145. [ss] Re: [BAWUG] HPWREN reduces power on 72-mile WLAN link

From: "Jason A. Beens" <jbeens@sensetechnologies.com>
Date: Thu, 21 Nov 2002 21:58:35 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108177-2002.11.21-22.38.12--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I am not familiar with the HPWREN project aside from what I have seen here.  Does that group have any amateur operators involved?  If they do, perhaps we could convince them to join this list.  I would love to hear about their trials and errors that led up to their 72 mile launch, even if the link is technically illegal.  They had to have overcome several technical issues to achieve a link at that distance, and learning from others' mistakes is less painful than learning stuff firsthand.

Jason Beens
KB0CDN

-----Original Message-----
From: Gerry Creager N5JXS [mailto:gerry.creager@tamu.edu]
Sent: Thursday, November 21, 2002 9:43 PM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] Re: [BAWUG] HPWREN reduces power on 72-mile WLAN link


I guess I'm frustrated here.  All I'm seeing is righteous indignation.

These guys pushed a 2 GHz signal out *72* *MILES* on 1 watt RF, and
admittedly plenty of antenna.  I feel obligated to point out that this
is beyond the visual and RF horizons, that they're obviously taking
advantage of refraction in the sea-surface boundary layer, and that
precious few on this list have achieved anything similar.

They responded to the complaints by reducing power.

And the research data they're bringing back in happens to be fairly
significant, and is now being relayed for a significantly lower cost
than INMARSAT, or other alternatives.

So: Why is everyone still bitching?

gerry

Walt DuBose wrote:
> Quoting Jeff..."They reduced the power from 1W to 250mW. I wonder
> if this isn't
> still above the 1W EIRP due to their antenna's gain..."
>
> Using the decibel conversion calculator at
> http://www.ecommwireless.com/calculations.html,
> 250 mw is 23.9 dB.  23.9 dB xmit power plus a 24 dB gain antenna
> is 47.9 dB or 61,659 mw
> 0r 61.659 watts.  Hummmm Ok, I'll give them 3 dB coax and
> connector loss.  But, YES, I'd
> say they were still illegal since Part 15 only allows for 33 dB
> EIRP (1.995 watts).
>
> Jeff King wrote:
>
>>FYI
>>
>>--- Original Message ---
>>From: "Jack Grimes" <jgrimes@grimesonline.com>
>>To: Wireless List List <wireless@lists.bawug.org>
>>Cc:
>>Sent: Thu, 21 Nov 2002 14:48:56 -0800
>>Subject: [BAWUG] HPWREN reduces power on 72-mile WLAN link
>>
>>
>>>HPWREN reduces power on 72-mile WLAN link
>>>
>>>Responding to complaints, the High Performance Wireless Research and
>>>Education Network has reduced power on a 72-mile, 2.4-GHz link it
>>>maintains
>>
>>>from San Diego to San Clemente Island.
>>
>>>Full article at:
>>>http://computerworld.com/newsletter/0%2C4902%2C76118%2C0.html?nlid=PM
>>>
>>>
>>>They reduced the power from 1W to 250mW. I wonder if this isn't
>>>still above
>>>the 1W EIRP due to their antenna's gain. Data rate dropped to
>>>~300KBits/sec.
>>>Still, 72 miles is remarkable!
>>>--jack
>>
>>---
>>You are currently subscribed to ss as: dubose@texas.net
>>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>
> ---
> You are currently subscribed to ss as: gerry.creager@tamu.edu
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org


--
Gerry Creager -- gerry.creager@tamu.edu
Network Engineering, Academy for Advanced Telecommunications
Texas A&M University, College Station, TX
Office: 979.458.4020 FAX: 979.847.8578 Cell: 979.229.5301
Page: 979.228.0173 -or- gcreager@my2way.com


---
You are currently subscribed to ss as: jbeens@sensetechnologies.com
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---
You are currently subscribed to ss as: lyris.ss@tapr.org

To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 146. [ss] Re: [BAWUG] HPWREN reduces power on 72-mile WLAN link

From: Walt DuBose <dubose@texas.net>
Date: Thu, 21 Nov 2002 21:57:13 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108178-2002.11.21-22.41.08--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Gerry,

Using your logic...

Its very important that I get to work every morning at 07:30, in
fact some people might say that my being there is part of the
national infrastructure protection and thus the defense of the
nation.  So, I should be able to travel down Loop 410 and I-35
and Loop 1604 at 80 MPH with impunity.

Walt/K5YFW


Gerry Creager N5JXS wrote:
>
> I guess I'm frustrated here.  All I'm seeing is righteous indignation.
>
> These guys pushed a 2 GHz signal out *72* *MILES* on 1 watt RF, and
> admittedly plenty of antenna.  I feel obligated to point out that this
> is beyond the visual and RF horizons, that they're obviously taking
> advantage of refraction in the sea-surface boundary layer, and that
> precious few on this list have achieved anything similar.
>
> They responded to the complaints by reducing power.
>
> And the research data they're bringing back in happens to be fairly
> significant, and is now being relayed for a significantly lower cost
> than INMARSAT, or other alternatives.
>
> So: Why is everyone still bitching?
>
> gerry
>
> Walt DuBose wrote:
> > Quoting Jeff..."They reduced the power from 1W to 250mW. I wonder
> > if this isn't
> > still above the 1W EIRP due to their antenna's gain..."
> >
> > Using the decibel conversion calculator at
> > http://www.ecommwireless.com/calculations.html,
> > 250 mw is 23.9 dB.  23.9 dB xmit power plus a 24 dB gain antenna
> > is 47.9 dB or 61,659 mw
> > 0r 61.659 watts.  Hummmm Ok, I'll give them 3 dB coax and
> > connector loss.  But, YES, I'd
> > say they were still illegal since Part 15 only allows for 33 dB
> > EIRP (1.995 watts).
> >
> > Jeff King wrote:
> >
> >>FYI
> >>
> >>--- Original Message ---
> >>From: "Jack Grimes" <jgrimes@grimesonline.com>
> >>To: Wireless List List <wireless@lists.bawug.org>
> >>Cc:
> >>Sent: Thu, 21 Nov 2002 14:48:56 -0800
> >>Subject: [BAWUG] HPWREN reduces power on 72-mile WLAN link
> >>
> >>
> >>>HPWREN reduces power on 72-mile WLAN link
> >>>
> >>>Responding to complaints, the High Performance Wireless Research and
> >>>Education Network has reduced power on a 72-mile, 2.4-GHz link it
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> >>>
> >>>from San Diego to San Clemente Island.
> >>>
> >>>Full article at:
> >>>http://computerworld.com/newsletter/0%2C4902%2C76118%2C0.html?nlid=PM
> >>>

> >>>
> >>>They reduced the power from 1W to 250mW. I wonder if this isn't
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> >>>the 1W EIRP due to their antenna's gain. Data rate dropped to
> >>>~300KBits/sec.
> >>>Still, 72 miles is remarkable!
> >>>--jack
> >>
> >>---
> >>You are currently subscribed to ss as: dubose@texas.net
> >>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
> >
> >
> > ---
> > You are currently subscribed to ss as: gerry.creager@tamu.edu
> > To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
> --
> Gerry Creager -- gerry.creager@tamu.edu
> Network Engineering, Academy for Advanced Telecommunications
> Texas A&M University, College Station, TX
> Office: 979.458.4020 FAX: 979.847.8578 Cell: 979.229.5301
> Page: 979.228.0173 -or- gcreager@my2way.com
>
> ---
> You are currently subscribed to ss as: dubose@texas.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 147. [ss] Re: [BAWUG] HPWREN reduces power on 72-mile WLAN link

From: Bill Vodall - WA7NWP <wa7nwp@yahoo.com>
Date: Thu, 21 Nov 2002 20:08:12 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108180-2002.11.21-22.52.28--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 09:42 PM 11/21/02 -0600, Gerry Creager N5JXS wrote:
>I guess I'm frustrated here.  All I'm seeing is righteous indignation.
>
>These guys pushed a 2 GHz signal out *72* *MILES* on 1 watt RF, and admittedly plenty of antenna.  I
feel obligated to point out that this is beyond the visual and RF horizons, that they're obviously
taking advantage of refraction in the sea-surface boundary layer, and that precious few on this list
have achieved anything similar.
>
>So: Why is everyone still bitching?

Maybe because in the old days it was the hams doing neat stuff.  Now the
new  "Radio Amateurs" are going faster and farther and we're being left
in the dust running 1200 baud AFSK.   No licenses and no Morse Code involved.

Anybody remember the last time we hams had headlines like that?  The only
one I can think of in recent history is Bob's PCSAT.

So what does it take to get some decent SS radios running on 144, 223 and 440?

Bill, WA7NWP

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 148. [ss] Re: [BAWUG] HPWREN reduces power on 72-mile WLAN link

From: Jeff King <jeff@aerodata.net>
Date: Thu, 21 Nov 2002 23:29:13 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108181-2002.11.21-23.13.39--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Speak for yourself Gerry... I posted this to stop all the bitching. Should
have known better I guess.

--
Jeff King, jeff@aerodata.net on 11/21/2002

On Thu, 21 Nov 2002 21:42:53 -0600, Gerry Creager N5JXS wrote:
>I guess I'm frustrated here.  All I'm seeing is righteous
>indignation.
>
>These guys pushed a 2 GHz signal out *72* *MILES* on 1 watt RF, and
>admittedly plenty of antenna.  I feel obligated to point out that
>this
>is beyond the visual and RF horizons, that they're obviously taking
>advantage of refraction in the sea-surface boundary layer, and that
>precious few on this list have achieved anything similar.
>
>They responded to the complaints by reducing power.
>
>And the research data they're bringing back in happens to be fairly
>significant, and is now being relayed for a significantly lower cost
>than INMARSAT, or other alternatives.
>
>So: Why is everyone still bitching?
>
>gerry
>
>Walt DuBose wrote:
>>Quoting Jeff..."They reduced the power from 1W to 250mW. I wonder
>>if this isn't
>>still above the 1W EIRP due to their antenna's gain..."
>>
>>Using the decibel conversion calculator at
>>http://www.ecommwireless.com/calculations.html,
>>250 mw is 23.9 dB.  23.9 dB xmit power plus a 24 dB gain antenna
>>is 47.9 dB or 61,659 mw
>>0r 61.659 watts.  Hummmm Ok, I'll give them 3 dB coax and
>>connector loss.  But, YES, I'd
>>say they were still illegal since Part 15 only allows for 33 dB
>>EIRP (1.995 watts).
>>
>>Jeff King wrote:
>>
>>>FYI
>>>
>>>--- Original Message ---
>>>From: "Jack Grimes" <jgrimes@grimesonline.com>
>>>To: Wireless List List <wireless@lists.bawug.org>
>>>Cc:
>>>Sent: Thu, 21 Nov 2002 14:48:56 -0800
>>>Subject: [BAWUG] HPWREN reduces power on 72-mile WLAN link
>>>
>>>
>>>>HPWREN reduces power on 72-mile WLAN link
>>>>
>>>>Responding to complaints, the High Performance Wireless Research
>>>>and
>>>>Education Network has reduced power on a 72-mile, 2.4-GHz link it
>>>>maintains
>>>
>>>>from San Diego to San Clemente Island.
>>>
>>>>Full article at:
>>>>http://computerworld.com/newsletter/0%2C4902%2C76118%2C0.html?nlid
>>>>=PM
>>>>
>>>>
>>>>They reduced the power from 1W to 250mW. I wonder if this isn't
>>>>still above
>>>>the 1W EIRP due to their antenna's gain. Data rate dropped to
>>>>~300KBits/sec.
>>>>Still, 72 miles is remarkable!
>>>>--jack
>>>
>>>---
>>>You are currently subscribed to ss as: dubose@texas.net
>>>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>>
>>
>>---
>>You are currently subscribed to ss as: gerry.creager@tamu.edu
>>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 149. [ss] Re: [BAWUG] HPWREN reduces power on 72-mile WLAN link

From: Jeff King <jeff@aerodata.net>
Date: Thu, 21 Nov 2002 23:31:00 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108182-2002.11.21-23.15.33--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Walt:

Your attributing a quote to me I didn't make. I just forwarded a message from another newsgroup.

24dBm into a 24dBi gain antenna on a point to point link under part 15 is legal.

--
Jeff King, jeff@aerodata.net on 11/21/2002

On Thu, 21 Nov 2002 21:30:22 -0600, Walt DuBose wrote:
>Quoting Jeff..."They reduced the power from 1W to 250mW. I wonder
>if this isn't
>still above the 1W EIRP due to their antenna's gain..."
>
>Using the decibel conversion calculator at
>http://www.ecommwireless.com/calculations.html,
>250 mw is 23.9 dB.  23.9 dB xmit power plus a 24 dB gain antenna
>is 47.9 dB or 61,659 mw
>0r 61.659 watts.  Hummmm Ok, I'll give them 3 dB coax and
>connector loss.  But, YES, I'd
>say they were still illegal since Part 15 only allows for 33 dB
>EIRP (1.995 watts).
>
>Jeff King wrote:
>>
>>FYI
>>
>>--- Original Message ---
>>From: "Jack Grimes" <jgrimes@grimesonline.com>
>>To: Wireless List List <wireless@lists.bawug.org>
>>Cc:
>>Sent: Thu, 21 Nov 2002 14:48:56 -0800
>>Subject: [BAWUG] HPWREN reduces power on 72-mile WLAN link
>>
>>>HPWREN reduces power on 72-mile WLAN link
>>>
>>>Responding to complaints, the High Performance Wireless Research
>>>and
>>>Education Network has reduced power on a 72-mile, 2.4-GHz link it
>>>maintains
>>>from San Diego to San Clemente Island.
>>>
>>>Full article at:
>>>http://computerworld.com/newsletter/0%2C4902%2C76118%2C0.html?nlid=
>>>PM
>>>
>>>
>>>They reduced the power from 1W to 250mW. I wonder if this isn't
>>>still above
>>>the 1W EIRP due to their antenna's gain. Data rate dropped to
>>>~300KBits/sec.
>>>Still, 72 miles is remarkable!
>>>--jack
>>
>>---
>>You are currently subscribed to ss as: dubose@texas.net
>>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>---
>You are currently subscribed to ss as: jeff@aerodata.net

>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 150. [ss] Re: [BAWUG] HPWREN reduces power on 72-mile WLAN link

From: Gerry Creager N5JXS <gerry.creager@tamu.edu>
Date: Thu, 21 Nov 2002 22:50:32 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108183-2002.11.21-23.34.07--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I'm working on it, but I'm running out of hours in the day.  I'll try
again Monday to reach a couple of colleagues out there.

gerry

Jason A. Beens wrote:
> I am not familiar with the HPWREN project aside from what I have seen here.  Does that group have any amateur operators involved?  If they do, perhaps we could convince them to join this list.  I would love to hear about their trials and errors that led up to their 72 mile launch, even if the link is technically illegal.  They had to have overcome several technical issues to achieve a link at that distance, and learning from others' mistakes is less painful than learning stuff firsthand.
>
> Jason Beens
> KB0CDN
>
> -----Original Message-----
> From: Gerry Creager N5JXS [mailto:gerry.creager@tamu.edu]
> Sent: Thursday, November 21, 2002 9:43 PM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: [BAWUG] HPWREN reduces power on 72-mile WLAN link
>
>
> I guess I'm frustrated here.  All I'm seeing is righteous indignation.
>
> These guys pushed a 2 GHz signal out *72* *MILES* on 1 watt RF, and
> admittedly plenty of antenna.  I feel obligated to point out that this
> is beyond the visual and RF horizons, that they're obviously taking
> advantage of refraction in the sea-surface boundary layer, and that
> precious few on this list have achieved anything similar.
>
> They responded to the complaints by reducing power.
>
> And the research data they're bringing back in happens to be fairly
> significant, and is now being relayed for a significantly lower cost
> than INMARSAT, or other alternatives.
>
> So: Why is everyone still bitching?
>
> gerry
>
> Walt DuBose wrote:
>
>>Quoting Jeff..."They reduced the power from 1W to 250mW. I wonder
>>if this isn't
>>still above the 1W EIRP due to their antenna's gain..."
>>
>>Using the decibel conversion calculator at
>>http://www.ecommwireless.com/calculations.html,
>>250 mw is 23.9 dB.  23.9 dB xmit power plus a 24 dB gain antenna
>>is 47.9 dB or 61,659 mw
>>0r 61.659 watts.  Hummmm Ok, I'll give them 3 dB coax and
>>connector loss.  But, YES, I'd
>>say they were still illegal since Part 15 only allows for 33 dB
>>EIRP (1.995 watts).
>>
>>Jeff King wrote:
>>
>>
>>>FYI
>>>
>>>--- Original Message ---
>>>From: "Jack Grimes" <jgrimes@grimesonline.com>

>>>To: Wireless List List <wireless@lists.bawug.org>
>>>Cc:
>>>Sent: Thu, 21 Nov 2002 14:48:56 -0800
>>>Subject: [BAWUG] HPWREN reduces power on 72-mile WLAN link
>>>
>>>
>>>
>>>>HPWREN reduces power on 72-mile WLAN link
>>>>
>>>>Responding to complaints, the High Performance Wireless Research and
>>>>Education Network has reduced power on a 72-mile, 2.4-GHz link it
>>>>maintains
>>>
>>>>from San Diego to San Clemente Island.
>>>
>>>
>>>>Full article at:
>>>>http://computerworld.com/newsletter/0%2C4902%2C76118%2C0.html?nlid=PM
>>>>
>>>>
>>>>They reduced the power from 1W to 250mW. I wonder if this isn't
>>>>still above
>>>>the 1W EIRP due to their antenna's gain. Data rate dropped to
>>>>~300KBits/sec.
>>>>Still, 72 miles is remarkable!
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>>>
>>>---
>>>You are currently subscribed to ss as: dubose@texas.net
>>>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>>
>>
>>---
>>You are currently subscribed to ss as: gerry.creager@tamu.edu
>>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>
>


--
Gerry Creager -- gerry.creager@tamu.edu
Network Engineering, Academy for Advanced Telecommunications
Texas A&M University, College Station, TX
Office: 979.458.4020 FAX: 979.847.8578 Cell: 979.229.5301
Page: 979.228.0173 -or- gcreager@my2way.com


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 151. [ss] Re: [BAWUG] HPWREN reduces power on 72-mile WLAN link

From: Gerry Creager N5JXS <gerry.creager@tamu.edu>
Date: Thu, 21 Nov 2002 22:55:09 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108184-2002.11.21-23.39.05--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

It just seems like when they admit they screwed up and then try to do
the due diligence (which admittedly they should have done before), and
implement a change, folks are still unhappy with them.

These guys never were a cowboy outfit.  But as they point out, they're
computer geeks, not RF geeks.  2 years ago, I spent an extra afternoon,
helping them work the kinks out of a licensed 5 GHz link they were
having troubles with, for the same reason.

They accomplished something pretty darned neat.  The sea layer
refraction, which, actually, I don't think they even planned on, is a
real nice turn.  And the only way they could accomplish the link, unless
I miss my bet.

I still think that, even if they were running a whole watt, it's a neat
result.

Thanks for trying.  This time, you get to try to keep ME in check from
flaming the world!

73, gerry

Jeff King wrote:
> Speak for yourself Gerry... I posted this to stop all the bitching. Should
> have known better I guess.
>
>

--
Gerry Creager -- gerry.creager@tamu.edu
Network Engineering, Academy for Advanced Telecommunications
Texas A&M University, College Station, TX
Office: 979.458.4020 FAX: 979.847.8578 Cell: 979.229.5301
Page: 979.228.0173 -or- gcreager@my2way.com

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 152. [ss] 802.11 Up Converter...

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Fri, 22 Nov 2002 23:27:30 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108216-2002.11.22-07.13.18--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

G'Day...

The way I see it many hams love 802.11, but see a problem with the fact
that there is so much rubbish there, and would love the chance to
actually run 802.11 somewhere else - Maybe 5 GHz, or 900 MHz. Even 1.2
GHz.

One of my clients tipped me off to YDI releasing a new product that
up/down converts an 802.11b signal to the 5.8 GHz. From memory the unit
add/subtracts 3328 MHz to/from the 802.11 signal. Not cheap, but solves
a problem on some links....

http://www.ydi.com/products/ca2458.php

Darryl

P.S. It is FCC approved 'AS PART OF A COMPLIANT SYSTEM'...

---------
Darryl Smith, VK2TDS  POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 153. [ss] More thoughts

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Fri, 22 Nov 2002 10:30:56 -0600 (CST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108239-2002.11.22-10.12.27--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Here are some more random thoughts (not attacks at anyone).  I guess we
can sit in the corner and complain about what the Part 15 users are
doing even if they are bending the rules a little, or we can mimic them.

Yaya, it would be great to get something going on a different unpolluted
band.  But, I fear, that's not the right approach.  First there has to be
demonstrated interest before any person or groups of people will go out
of their way to build a cheap transverter or try to "butter up an
existing manufacture."  (You didn't see APRS integrated into Kenwood
amateur gear without demonstrated interest?)

Not only do you have to do it, but demonstrated it, so (the right) people
know and see a trend.

Once enough hams start doing stuff with this questions like backbones

pop up.  Right now hams are probably experimenting with point to point
links for the most part.

In order to build a network, if that's our goal. (But note that it doesn't
have to be, maybe a point to point link to your ham friend to play Doom
over is all you seek..) a network needs a centralized method of
local/national mail & other services (DNS/proxy).  This means a
centralized DNS and routing system.  Which spells out "backbone" in
order to do this.  True RF backbones take years to build after the
concept has caught on.  So naturally our Virtual Private ham Network will
most likely tunnel over the internet to a centralized DNS/routing server.
(kinda like findu.com for APRS).   Centralized DNS/routing is, I think,
something to start thinking about.  I think its lack was/is a major
fallback for conventional packet.  Even though it would/is hard to pull
off a such slow speeds.  Maybe this is where we get "computer" help from
some of the part 15 guys in exchange for our "RF" help.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 154. [ss] Re: 802.11 Up Converter...

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Fri, 22 Nov 2002 11:01:17 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108240-2002.11.22-10.55.00--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

This was posted before:

http://www.teletronics.com/tii/products/udc/udc_table.html

Other options like 2.4 to 900 MHz (1 & 4 watts), 2.4 to; 2.6 GHz, 3.4 GHz,
3.5 GHz, 4.4 GHz.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 155. [ss] RE: 802.11 Up Converter...

From: "Hare,Ed, W1RFI" <w1rfi@arrl.org>
Date: Fri, 22 Nov 2002 17:52:54 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108256-2002.11.22-17.37.12--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> P.S. It is FCC approved 'AS PART OF A COMPLIANT SYSTEM'...

Hams can use it under Part 97 irrespective of its FCC authorization.

73,
Ed Hare, W1RFI
ARRL Lab
225 Main St
Newington, CT 06111
Tel: 860-594-0318
Internet: w1rfi@arrl.org
Web: http://www.arrl.org/tis

> -----Original Message-----
> From: Darryl Smith [mailto:Darryl@radio-active.net.au]
> Sent: Friday, November 22, 2002 7:28 AM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] 802.11 Up Converter...
>
>
> G'Day...
>
> The way I see it many hams love 802.11, but see a problem
> with the fact
> that there is so much rubbish there, and would love the chance to
> actually run 802.11 somewhere else - Maybe 5 GHz, or 900 MHz. Even 1.2
> GHz.
>
> One of my clients tipped me off to YDI releasing a new product that

> up/down converts an 802.11b signal to the 5.8 GHz. From
> memory the unit
> add/subtracts 3328 MHz to/from the 802.11 signal. Not cheap,
> but solves
> a problem on some links....
>
> http://www.ydi.com/products/ca2458.php
>
> Darryl
>
> P.S. It is FCC approved 'AS PART OF A COMPLIANT SYSTEM'...
>
> ---------
> Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
> Mobile Number 0412 929 634 [+61 4 12 929 634 International]
> Darryl@radio-active.net.au | www.radio-active.net.au
>
>
>
> ---
> You are currently subscribed to ss as: W1RFI@ARRL.ORG
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 156. [ss] Re: [BAWUG] HPWREN reduces power on 72-mile WLAN link

From: Stewart Teaze <horseshoe7@yahoo.com>
Date: Fri, 22 Nov 2002 18:54:56 -0800 (PST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108264-2002.11.22-21.39.10--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

It's my understanding that someone from HPWREN spoke at last week's SDWUG meeting in San Diego.  Didn't hear any feedback after the meeting on the SDWUG mail list, however.  (I've got to figure they don't want any more negative publicity over this issue, and want the issue to blow over).
I'm willing to accept these folks' explanation that this was an honest mistake.  Like I said before, my real concern wasn't this particular link, but that this was just the "tip of the iceberg", as HPWREN has links running all over my neck of the woods in San Diego and Riverside counties - and I was kind of concerned that they weren't playing by the rules(because they didn't understand them), and were (are) doing it on my nickel (funded by the govt), and then were going around spreading false information in a national publication.
But, you know, I bet nobody would have ever known about HPWREN's transgressions, if they hadn't have gone and BLABBED about it in that publication.  Moral of the story: If you keep quiet about it, you can run illegal power levels (within some reasonable limit that hasn't been figured out yet) on Part 15, and nobody will EVER know.  Even if you were caught, you could simply claim ignorance of the rules... tell 'em you read how to do it in a magazine article describing HPWREN's system :)
"Jason A. Beens" <jbeens@sensetechnologies.com> wrote:I am not familiar with the HPWREN project aside from what I have seen here. Does that group have any amateur operators involved? If they do, perhaps we could convince them to join this list. I would love to hear about their trials and errors that led up to their 72 mile launch, even if the link is technically illegal. They had to have overcome several technical issues to achieve a link at that distance, and learning from others' mistakes is less painful than learning stuff firsthand.

Jason Beens
KB0CDN

-----Original Message-----
From: Gerry Creager N5JXS [mailto:gerry.creager@tamu.edu]
Sent: Thursday, November 21, 2002 9:43 PM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] Re: [BAWUG] HPWREN reduces power on 72-mile WLAN link

---------------------------------
Do you Yahoo!?
Yahoo! Mail Plus - Powerful. Affordable. Sign up now

## 157. [ss] [Fwd: [bawia] FW: MITWF: Dec 4th - an evening with David Reed]

From: "Eric S. Johansson" <esj@harvee.billerica.ma.us>
Date: Fri, 22 Nov 2002 22:21:04 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108265-2002.11.22-22.05.19--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

-------- Original Message --------
Subject: [bawia] FW: MITWF: Dec 4th - an evening with David Reed
Date: Fri, 22 Nov 2002 21:52:39 -0500
From: Timothy M. Lyons <lyons@digitalvoodoo.org>
Reply-To: <lyons@digitalvoodoo.org>
Organization: Digitalvoodoo, LLC
To: <BAWIA@bawia.org>

-----Original Message-----
*From:* arte merritt [mailto:am@3mginc.com]
*Sent:* Friday, November 22, 2002 20:45
*To:* mitwf@mitwf.org
*Subject:* MITWF: Dec 4th - an evening with David Reed

Hello all,

Our next event is scheduled for Wednesday December 4th.

As this is late notice, the price will be $10 at the door without any
late registration fee.

To help else get an accurate headcount, please pre-register online at:
http://www.mitwf.org/servlet/eventdetailcontrol?eventID=14

Thanks,

Arte

*The MIT Wireless Forum Presents*:

An Evening with David Reed

Why spectrum is not property: the case for an entirely new regime of
wireless communications policy.

*Date*: Wednesday, December 4, 2002
*Location*: Room E51-315 (directions below)
*Cost*: $10
Register online at:
http://www.mitwf.org/servlet/eventdetailcontrol?eventID=14

*Schedule*:
6:30 to 7:00pm Registration and Networking (0:30)
7:00 to 7:45pm David Reed's Presentation (0:45)
7:45 to 8:30pm Discussion Session with David Reed and Guests (0:45)

Dr. David P. Reed will give a presentation on spectrum allocation issues
and argue that what we now know about the physics and architecture of RF
communications contradicts the "property" model of spectrum. There is a
need to see spectrum in a new way and an opportunity for much better
spectrum use that is based on cooperative networking rather than a
property model.

Dr. Reed is an independent entrepreneur, advisor and consultant. His
current work is focused on densely scalable, mobile, and robust RF
network architectures and highly decentralized systems architectures. He
is co-inventor of the end-to-end argument, often called the fundamental
architectural principle of the Internet. He also discovered Reed's Law,
a scaling law for group-forming network architectures with significant
implications for large-scale network business models. His distinguished
career includes research at Interval Corporation, chief scientist for
Lotus Development Corporation, and  professor of computer science and
engineering at the MIT Laboratory for Computer Science. Dr. Reed holds a
B.S. in electrical engineering and M.S and Ph.D. degrees in computer
science and engineering from MIT.

For more information and to register, visit:
http://www.mitwf.org/servlet/eventdetailcontrol?eventID=14

*Directions*
Room E51-315 is located in Building E51 on the third floor. Building E51
is located on Memorial Drive - a map is online at
http://whereis.mit.edu/bin/map?locate=bldg_e51 . The entrance is on the
corner of Amherst & Wadsworth (Amherst is parallel to Memorial Dr).
There is an elevator in the lobby area that will take you to the third
floor. There will be signs to the room as soon as you enter the building.

*Parking*
There are a few MIT parking lots that are free nearby. One of them is
off of Hayward St which is off of Amherst (see the map link above).
Another is on Main St just before you cross back over the Longfellow
bridge. There is generally parking on most of the side streets on campus
as well.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 158. [ss] Re: ss digest: November 22, 2002

From: "John Champa" <k8ocl@hotmail.com>
Date: Sat, 23 Nov 2002 12:22:06 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108313-2002.11.23-12.06.28--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Greetings,

The ARRL High Speed Multimedia (HSMM) Working Group is in the process of
designing and testing a possible national-wide mesh network for the 2.4 GHz
Ham band based on the IEEE 802.11b technology on Channel 6, but intended for
Part 97 (Ham) use on 2437 MHz.

FYI, in the test network we presently have set up and running in Livingston
County Michigan, one of the several methods we use to keep our friendly
distance, so to speak, from the many Part 15 users of the band is that the
HSMM stations and nodes use only horizontal polarization.  Part 15 users
are, for all practical purposes, all vertically polarized.  That provides a
theoretical 20-25 dB separation between us and them.  Given the low power
levels we all are presently using, coupled with the generally poor antenna
system design and/or n.f. of most Part 15 stations, they don't even know we
are there (HI).

Vy 73,
John Champa, K8OCL
ARRL Chairman
HSMM Working Group
734-657-1000
k8ocl@arrl.net

From: "TAPR Spread Spectrum Special Interest Group digest"
<ss@lists.tapr.org>
Reply-To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
To: "ss digest recipients" <ss@lists.tapr.org>
Subject: ss digest: November 22, 2002
Date: Sat, 23 Nov 2002 00:00:13 -0500

TAPR Spread Spectrum Special Interest Group Digest for Friday, November 22,
2002.

1. 802.11 Up Converter...
2. More thoughts
3. Re: 802.11 Up Converter...
4. RE: 802.11 Up Converter...
5. Re: [BAWUG] HPWREN reduces power on 72-mile WLAN link
6. [Fwd: [bawia] FW: MITWF: Dec 4th - an evening with David Reed]

---

Subject: 802.11 Up Converter...
From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Fri, 22 Nov 2002 23:27:30 +1100
X-Message-Number: 1

G'Day...

The way I see it many hams love 802.11, but see a problem with the fact
that there is so much rubbish there, and would love the chance to
actually run 802.11 somewhere else - Maybe 5 GHz, or 900 MHz. Even 1.2

GHz.

One of my clients tipped me off to YDI releasing a new product that
up/down converts an 802.11b signal to the 5.8 GHz. From memory the unit
add/subtracts 3328 MHz to/from the 802.11 signal. Not cheap, but solves
a problem on some links....

http://www.ydi.com/products/ca2458.php

Darryl

P.S. It is FCC approved 'AS PART OF A COMPLIANT SYSTEM'...

---
Darryl Smith, VK2TDS  POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

---

Subject: More thoughts
From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Fri, 22 Nov 2002 10:30:56 -0600 (CST)
X-Message-Number: 2

Here are some more random thoughts (not attacks at anyone).  I guess we
can sit in the corner and complain about what the Part 15 users are
doing even if they are bending the rules a little, or we can mimic them.

Yaya, it would be great to get something going on a different unpolluted
band.  But, I fear, that's not the right approach.  First there has to be
demonstrated interest before any person or groups of people will go out
of their way to build a cheap transverter or try to "butter up an
existing manufacture."  (You didn't see APRS integrated into Kenwood
amateur gear without demonstrated interest?)

Not only do you have to do it, but demonstrated it, so (the right) people
know and see a trend.

Once enough hams start doing stuff with this questions like backbones
pop up.  Right now hams are probably experimenting with point to point
links for the most part.

In order to build a network, if that's our goal. (But note that it doesn't
have to be, maybe a point to point link to your ham friend to play Doom
over is all you seek..) a network needs a centralized method of
local/national mail & other services (DNS/proxy).  This means a
centralized DNS and routing system.  Which spells out "backbone" in
order to do this.  True RF backbones take years to build after the
concept has caught on.  So naturally our Virtual Private ham Network will
most likely tunnel over the internet to a centralized DNS/routing server.
(kinda like findu.com for APRS).  Centralized DNS/routing is, I think,
something to start thinking about.  I think its lack was/is a major
fallback for conventional packet.  Even though it would/is hard to pull
off a such slow speeds.  Maybe this is where we get "computer" help from
some of the part 15 guys in exchange for our "RF" help.

---

Subject: Re: 802.11 Up Converter...
From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Fri, 22 Nov 2002 11:01:17 +0000
X-Message-Number: 3

This was posted before:

http://www.teletronics.com/tii/products/udc/udc_table.html

Other options like 2.4 to 900 MHz (1 & 4 watts), 2.4 to; 2.6 GHz, 3.4 GHz,
3.5 GHz, 4.4 GHz.

---

Subject: RE: 802.11 Up Converter...
From: "Hare,Ed, W1RFI" <w1rfi@arrl.org>

Date: Fri, 22 Nov 2002 17:52:54 -0500
X-Message-Number: 4

 > P.S. It is FCC approved 'AS PART OF A COMPLIANT SYSTEM'...=20

Hams can use it under Part 97 irrespective of its FCC authorization.

73,=20
Ed Hare, W1RFI
ARRL Lab
225 Main St
Newington, CT 06111
Tel: 860-594-0318
Internet: w1rfi@arrl.org
Web: http://www.arrl.org/tis

 > -----Original Message-----
 > From: Darryl Smith [mailto:Darryl@radio-active.net.au]
 > Sent: Friday, November 22, 2002 7:28 AM
 > To: TAPR Spread Spectrum Special Interest Group
 > Subject: [ss] 802.11 Up Converter...
 >=20
 >=20
 > G'Day...
 >=20
 > The way I see it many hams love 802.11, but see a problem=20
 > with the fact
 > that there is so much rubbish there, and would love the chance to
 > actually run 802.11 somewhere else - Maybe 5 GHz, or 900 MHz. Even 1.2
 > GHz.=20
 >=20
 > One of my clients tipped me off to YDI releasing a new product that
 > up/down converts an 802.11b signal to the 5.8 GHz. From=20
 > memory the unit
 > add/subtracts 3328 MHz to/from the 802.11 signal. Not cheap,=20
 > but solves
 > a problem on some links....
 >=20
 > http://www.ydi.com/products/ca2458.php
 >=20
 > Darryl
 >=20
 > P.S. It is FCC approved 'AS PART OF A COMPLIANT SYSTEM'...=20
 >=20
 > ---------
 > Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
 > Mobile Number 0412 929 634 [+61 4 12 929 634 International]=20
 > Darryl@radio-active.net.au | www.radio-active.net.au =20
 >=20
 >=20
 >=20
 > ---
 > You are currently subscribed to ss as: W1RFI@ARRL.ORG
 > To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
 >=20
 >=20

---

Subject: Re: [BAWUG] HPWREN reduces power on 72-mile WLAN link
From: Stewart Teaze <horseshoe7@yahoo.com>
Date: Fri, 22 Nov 2002 18:54:56 -0800 (PST)
X-Message-Number: 5

--0-1203710455-1038020096=:65249
Content-Type: text/plain; charset=us-ascii

It's my understanding that someone from HPWREN spoke at last week's SDWUG
meeting in San Diego.  Didn't hear any feedback after the meeting on the
SDWUG mail list, however.  (I've got to figure they don't want any more
negative publicity over this issue, and want the issue to blow over).
I'm willing to accept these folks' explanation that this was an honest
mistake.  Like I said before, my real concern wasn't this particular link,
but that this was just the "tip of the iceberg", as HPWREN has links running
all over my neck of the woods in San Diego and Riverside counties - and I
was kind of concerned that they weren't playing by the rules(because they

didn't understand them), and were (are) doing it on my nickel (funded by the govt), and then were going around spreading false information in a national publication.
But, you know, I bet nobody would have ever known about HPWREN's transgressions, if they hadn't have gone and BLABBED about it in that publication.  Moral of the story: If you keep quiet about it, you can run illegal power levels (within some reasonable limit that hasn't been figured out yet) on Part 15, and nobody will EVER know.  Even if you were caught, you could simply claim ignorance of the rules... tell 'em you read how to do it in a magazine article describing HPWREN's system :)
  "Jason A. Beens" <jbeens@sensetechnologies.com> wrote:I am not familiar with the HPWREN project aside from what I have seen here. Does that group have any amateur operators involved? If they do, perhaps we could convince them to join this list. I would love to hear about their trials and errors that led up to their 72 mile launch, even if the link is technically illegal. They had to have overcome several technical issues to achieve a link at that distance, and learning from others' mistakes is less painful than learning stuff firsthand.

Jason Beens
KB0CDN

-----Original Message-----
From: Gerry Creager N5JXS [mailto:gerry.creager@tamu.edu]
Sent: Thursday, November 21, 2002 9:43 PM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] Re: [BAWUG] HPWREN reduces power on 72-mile WLAN link
---------------------------------
Do you Yahoo!?
Yahoo! Mail Plus - Powerful. Affordable. Sign up now
--0-1203710455-1038020096=:65249
Content-Type: text/html; charset=us-ascii

<P>It's my understanding that someone from HPWREN spoke at last week's SDWUG meeting in San Diego.  Didn't hear any feedback after the meeting on the SDWUG mail list, however.  (I've got to figure they don't want any more negative publicity over this issue, and want the issue to blow over).
<P>I'm willing to accept these folks' explanation that this was an honest mistake.  Like I said before, my real concern wasn't this particular link, but that this was just the "tip of the iceberg", as HPWREN has links running all over my neck of the woods in San Diego and Riverside counties - and I was kind of concerned that they weren't playing by the rules(because they didn't understand them), and were (are) doing it on my nickel (funded by the govt), and then were going around spreading false information in a national publication.
<P>But, you know, I bet nobody would have ever known about HPWREN's transgressions, if they hadn't have gone and BLABBED about it in that publication.  Moral of the story: If you keep quiet about it, you can run illegal power levels (within some reasonable limit that hasn't been figured out yet) on Part 15, and nobody will EVER know.  Even if you were caught, you could simply claim ignorance of the rules... tell 'em you read how to do it in a magazine article describing HPWREN's system :)
<P> <B><I>"Jason A. Beens" <jbeens@sensetechnologies.com></I></B> wrote:
<BLOCKQUOTE style="PADDING-LEFT: 5px; MARGIN-LEFT: 5px; BORDER-LEFT: #1010ff 2px solid">I am not familiar with the HPWREN project aside from what I have seen here. Does that group have any amateur operators involved? If they do, perhaps we could convince them to join this list. I would love to hear about their trials and errors that led up to their 72 mile launch, even if the link is technically illegal. They had to have overcome several technical issues to achieve a link at that distance, and learning from others' mistakes is less painful than learning stuff firsthand.<BR><BR>Jason Beens<BR>KB0CDN <BR><BR>-----Original Message-----<BR>From: Gerry Creager N5JXS [mailto:gerry.creager@tamu.edu]<BR>Sent: Thursday, November 21, 2002 9:43 PM<BR>To: TAPR Spread Spectrum Special Interest Group<BR>Subject: [ss] Re: [BAWUG] HPWREN reduces power on 72-mile WLAN link<BR></BLOCKQUOTE><p><br><hr size=1>Do you Yahoo!?<br>
<a href="http://rd.yahoo.com/mail/mailsig/*http://mailplus.yahoo.com">Yahoo! Mail Plus</a> - Powerful. Affordable. <a href="http://rd.yahoo.com/mail/mailsig/*http://mailplus.yahoo.com">Sign up now</a>
--0-1203710455-1038020096=:65249--

---

Subject: [Fwd: [bawia] FW: MITWF: Dec 4th - an evening with David Reed]
From: "Eric S. Johansson" <esj@harvee.billerica.ma.us>

Date: Fri, 22 Nov 2002 22:21:04 -0500
X-Message-Number: 6

-------- Original Message --------
Subject: [bawia] FW: MITWF: Dec 4th - an evening with David Reed
Date: Fri, 22 Nov 2002 21:52:39 -0500
From: Timothy M. Lyons <lyons@digitalvoodoo.org>
Reply-To: <lyons@digitalvoodoo.org>
Organization: Digitalvoodoo, LLC
To: <BAWIA@bawia.org>

-----Original Message-----
*From:* arte merritt [mailto:am@3mginc.com]
*Sent:* Friday, November 22, 2002 20:45
*To:* mitwf@mitwf.org
*Subject:* MITWF: Dec 4th - an evening with David Reed

Hello all,

Our next event is scheduled for Wednesday December 4th.

As this is late notice, the price will be $10 at the door without any
late registration fee.

To help else get an accurate headcount, please pre-register online at:
http://www.mitwf.org/servlet/eventdetailcontrol?eventID=14

Thanks,

Arte

*The MIT Wireless Forum Presents*:

An Evening with David Reed

Why spectrum is not property: the case for an entirely new regime of
wireless communications policy.

*Date*: Wednesday, December 4, 2002
*Location*: Room E51-315 (directions below)
*Cost*: $10
Register online at:
http://www.mitwf.org/servlet/eventdetailcontrol?eventID=14

*Schedule*:
6:30 to 7:00pm Registration and Networking (0:30)
7:00 to 7:45pm David Reed's Presentation (0:45)
7:45 to 8:30pm Discussion Session with David Reed and Guests (0:45)

Dr. David P. Reed will give a presentation on spectrum allocation issues
and argue that what we now know about the physics and architecture of RF
communications contradicts the "property" model of spectrum. There is a
need to see spectrum in a new way and an opportunity for much better
spectrum use that is based on cooperative networking rather than a
property model.

Dr. Reed is an independent entrepreneur, advisor and consultant. His
current work is focused on densely scalable, mobile, and robust RF
network architectures and highly decentralized systems architectures. He
is co-inventor of the end-to-end argument, often called the fundamental
architectural principle of the Internet. He also discovered Reed's Law,
a scaling law for group-forming network architectures with significant
implications for large-scale network business models. His distinguished
career includes research at Interval Corporation, chief scientist for
Lotus Development Corporation, and  professor of computer science and
engineering at the MIT Laboratory for Computer Science. Dr. Reed holds a
B.S. in electrical engineering and M.S and Ph.D. degrees in computer
science and engineering from MIT.

For more information and to register, visit:
http://www.mitwf.org/servlet/eventdetailcontrol?eventID=14

*Directions*
Room E51-315 is located in Building E51 on the third floor. Building E51

is located on Memorial Drive - a map is online at
http://whereis.mit.edu/bin/map?locate=bldg_e51 . The entrance is on the
corner of Amherst & Wadsworth (Amherst is parallel to Memorial Dr).
There is an elevator in the lobby area that will take you to the third
floor. There will be signs to the room as soon as you enter the building.

*Parking*
There are a few MIT parking lots that are free nearby. One of them is
off of Hayward St which is off of Amherst (see the map link above).
Another is on Main St just before you cross back over the Longfellow
bridge. There is generally parking on most of the side streets on campus
as well.

---

END OF DIGEST

---
You are currently subscribed to ss as: k8ocl@hotmail.com
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

_____
MSN 8 helps eliminate e-mail viruses. Get 2 months FREE*.
http://join.msn.com/?page=features/virus

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 159. [ss] RE:ARRL HSMM Working Group....

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Sun, 24 Nov 2002 16:44:32 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108365-2002.11.24-00.30.17--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

G'Day

>Part 15 users are, for all practical purposes, all vertically
polarized.
>That provides a theoretical 20-25 dB separation between us and them.

I am interested in what research has been done to prove that hypothesis.
I did some commercial 802.11 consulting with one of the local ISP's down
here on Friday, and they stated that they are using HORIZONTAL
polarisation. This is the first ISP I have done any consulting with, and
to find that they are using Horizontal is rather interesting.

I you start looking into the Commercial ISP world I think you will find
that a lot of them are starting to use slotted waveguide antennas which
are designed to operate horizontal. (More information can be found on
http://www.trevormarshall.com/waveguides.htm )

Once the ISP's realise that they can double the number of access points
with horizontal polarisation, I think that the ability for hams to use
Horizontal as a way to stay away from commercial interests is going to
be basically farcical.

Darryl VK2TDS

---
Darryl Smith, VK2TDS  POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

---
You are currently subscribed to ss as: lyris.ss@tapr.org

To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 160. [ss] RE:ARRL HSMM Working Group....

From: Doug Rich <doug@the-one.com>
Date: Sun, 24 Nov 2002 09:14:02 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108402-2002.11.24-10.58.31--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>G'Day
>
> >Part 15 users are, for all practical purposes, all vertically
>polarized.
> >That provides a theoretical 20-25 dB separation between us and them.
>
>I am interested in what research has been done to prove that hypothesis.
>I did some commercial 802.11 consulting with one of the local ISP's down
>here on Friday, and they stated that they are using HORIZONTAL
>polarisation. This is the first ISP I have done any consulting with, and
>to find that they are using Horizontal is rather interesting.

I work for an ISP and install wireless Internet systems.  We use both
vertical and horizontal polarization. When we have an AP and a back haul
system at the same location we us both.
Doug W7DVR


>I you start looking into the Commercial ISP world I think you will find
>that a lot of them are starting to use slotted waveguide antennas which
>are designed to operate horizontal. (More information can be found on
>http://www.trevormarshall.com/waveguides.htm )
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>Once the ISP's realise that they can double the number of access points
>with horizontal polarisation, I think that the ability for hams to use
>Horizontal as a way to stay away from commercial interests is going to
>be basically farcical.
>
>Darryl VK2TDS

## 161. [ss] RE:ARRL HSMM Working Group....

From: Jeff King <jeff@aerodata.net>
Date: Sun, 24 Nov 2002 11:44:40 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108404-2002.11.24-11.29.20--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Darryl:

I can't answer your questions, but in the U.S. Part 15 users have a
requirement to avoid interfering with Part 97 stations to the extent a part
15 user can be compelled to shut down their station if it can be demonstrated
their operations stop communications of a Part 97 station.

Now, with you average off the shelf Part 15 WLAN system, which is vertical,
trying to do this would be like herding cats. However, with a WISP, which is
a "static target" they could be compelled to work with hams in the area (or
be forced off the air).

I am not in any way suggesting hams chase after WISP's (Wireless ISP's). In
fact, if this where done with no basis I'd be the first one trying to defend
these guys... they provide a much needed service. But many of them don't have
a clue as to what they are doing and are "bad RF citizens". These would be
the one's ham's need to use a stick on.



--
Jeff King, jeff@aerodata.net on 11/24/2002


On Sun, 24 Nov 2002 16:44:32 +1100, Darryl Smith wrote:
>G'Day
>
>>Part 15 users are, for all practical purposes, all vertically
>polarized.
>>That provides a theoretical 20-25 dB separation between us and
>>them.
>

>I am interested in what research has been done to prove that
>hypothesis.
>I did some commercial 802.11 consulting with one of the local ISP's
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>polarisation. This is the first ISP I have done any consulting with,
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>to find that they are using Horizontal is rather interesting.
>
>I you start looking into the Commercial ISP world I think you will
>find
>that a lot of them are starting to use slotted waveguide antennas
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>http://www.trevormarshall.com/waveguides.htm )
>
>Once the ISP's realise that they can double the number of access
>points
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>Horizontal as a way to stay away from commercial interests is going
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>
>Darryl VK2TDS
>
>---------
>Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
>Mobile Number 0412 929 634 [+61 4 12 929 634 International]
>Darryl@radio-active.net.au | www.radio-active.net.au
>
>
>
>---
>You are currently subscribed to ss as: jeff@aerodata.net
>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 162. [ss] RE:ARRL HSMM Working Group....

From: "jeff millar" <jeff@wa1hco.mv.com>
Date: Sun, 24 Nov 2002 11:48:16 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108405-2002.11.24-11.32.57--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

20-25 dB of polarization isolation depends on a free space path between
transmitter and receiver.  In a multipath environment, the polarization
rotates every time it bounces off and object.  By the time it gets to the
receiver, polarization becomes mostly random.

In the Cellular (850 MHz) and PCS (1900 MHz) propagation, base stations
often receive the signal on both polarities and combine them for best
reception.  When the vertical component has a deep fade, the horizontal
component most often doesn't have a fade.  Measurements show about 6 dB
improvement in net performance by receiving both channels.

The only way to get a free space environment for polarization isolation
purposes is to place the interferring source antenna so that the beam does
not splash into the ground or other object along its path.

jeff, wa1hco

----- Original Message -----
From: "Darryl Smith" <Darryl@radio-active.net.au>
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Sent: Sunday, November 24, 2002 12:44 AM
Subject: [ss] RE:ARRL HSMM Working Group....


> G'Day
>
> >Part 15 users are, for all practical purposes, all vertically

> polarized.
> >That provides a theoretical 20-25 dB separation between us and them.
>
> I am interested in what research has been done to prove that hypothesis.
> I did some commercial 802.11 consulting with one of the local ISP's down
> here on Friday, and they stated that they are using HORIZONTAL
> polarisation. This is the first ISP I have done any consulting with, and
> to find that they are using Horizontal is rather interesting.
>
> I you start looking into the Commercial ISP world I think you will find
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> http://www.trevormarshall.com/waveguides.htm )
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> Darryl VK2TDS
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> ---------
> Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
> Mobile Number 0412 929 634 [+61 4 12 929 634 International]
> Darryl@radio-active.net.au | www.radio-active.net.au
>
>
>
> ---
> You are currently subscribed to ss as: JEFF@WA1HCO.MV.COM
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 163. [ss] RE:ARRL HSMM Working Group....

From: "Eric S. Johansson" <esj@harvee.billerica.ma.us>
Date: Sun, 24 Nov 2002 12:09:28 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108406-2002.11.24-11.53.51--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Darryl Smith wrote:
> G'Day
>
>
>>Part 15 users are, for all practical purposes, all vertically
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> polarized.
>
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> here on Friday, and they stated that they are using HORIZONTAL
> polarisation. This is the first ISP I have done any consulting with, and
> to find that they are using Horizontal is rather interesting.

good info.  Personally, I think the only way we will be able to coexist
is by changing some of the parameters of the spread spectrum engine like
the PNcodes or process gain.

this is why I keep coming back to the importance of having the tapr/arrl
negotiate with some board manufacturer to gain information on how to
tweak the settings of a standard 802.11a/b card for our own purposes.

---eric


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 164. [ss] RE:ARRL HSMM Working Group....

From: Jeff King <jeff@aerodata.net>
Date: Sun, 24 Nov 2002 12:31:31 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108408-2002.11.24-12.16.04--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>this is why I keep coming back to the importance of having the
>tapr/arrl
>negotiate with some board manufacturer to gain information on how to
>tweak the settings of a standard 802.11a/b card for our own purposes.

I think that has been discussed in the HSMM in general terms (and I do not speak for them).

However, anything like this would require at least a $25K commitment... I know this because a company I do some work for was going to license some 802.11b designs and this is the cost of the license. Maybe a way could be found to do it cheaper (this was from a meeting I had with Intersil and a few Taiwan manufacturers).

Long term, I think what you are suggesting is a good idea, but very few hams even understand what spread spectrum is, let alone are operating it. I'd first worry about getting some part 97 activity, then go for perfection.

--
Jeff King, jeff@aerodata.net on 11/24/2002

On Sun, 24 Nov 2002 12:09:28 -0500, Eric S. Johansson wrote:
>Darryl Smith wrote:
>>G'Day
>>
>>
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>
>---eric
>
>
>---
>You are currently subscribed to ss as: jeff@aerodata.net
>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 165. [ss] RE:ARRL HSMM Working Group....

From: "Eric S. Johansson" <esj@harvee.billerica.ma.us>
Date: Sun, 24 Nov 2002 13:51:13 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108412-2002.11.24-13.35.33--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Jeff King wrote:
>>this is why I keep coming back to the importance of having the
>>tapr/arrl
>>negotiate with some board manufacturer to gain information on how to
>>tweak the settings of a standard 802.11a/b card for our own purposes.
>
>
> I think that has been discussed in the HSMM in general terms (and I do not
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>
> However, anything like this would require at least a $25K commitment... I
> know this because a company I do some work for was going to license some
> 802.11b designs and this is the cost of the license. Maybe a way could be
> found to do it cheaper (this was from a meeting I had with Intersil and a few
> Taiwan manufacturers).

I was under the impression that most of the spread spectrum hardware had
significant "programmability" and just by tweaking some registers in the
right way, we could control enough of the parameters to reduce our
interference potential with the stock 802.11 systems.  Now, if all of
these parameters have been locked down in hardware in the name of cost
reductions, then yes, I can see the reason for a $25,000 commitment for
chip/board rework/license fees.

any idea how we can get this information?

> Long term, I think what you are suggesting is a good idea, but very few hams
> even understand what spread spectrum is, let alone are operating it. I'd
> first worry about getting some part 97 activity, then go for perfection.

I agree.  Which brings me to my second rant.

I've been watching the conversation over the past few weeks and it seems
to me that a lot other reason we don't have any activity is because we
don't have a common platform from which to launch the activity.

I believe we need a common platform for 802.11 experimentation that will
serve a similar purpose to that of the TNC only more so.  Yes, the
openAP project has identified some potential boards but I believe them
to be as ephemeral as soap bubbles on a summer day.  On the other hand,
a basic microprocessor platform (arm/Intel CPU, flash, RAM) with
ethernet and PCMCIA could probably be built and sold for under a couple
hundred dollars like... http://www.soekris.com/net4511.htm which sells
for under $200 in qty 1.

TAPR/ARRL could arrange for group purchases, standardized tools, mailing
lists, support, etc. and make a board like this the standard platform
for 802.11 experimentation.  The only thing I'm not happy with is that
it's a relatively slow CPU but in reality, it will do everything we need.

yes, I can purchase the board myself and play with it but I'd rather
head off in the same direction as everyone else and be part of the
network rather than off in the weeds enjoying pretty flowers (this time).

---eric

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 166. [ss] Proxim mods?

From: "Marcelo Puhl" <mark@cpovo.net>
Date: Sun, 24 Nov 2002 18:03:59 -0200
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108417-2002.11.24-14.47.34--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,

I'm looking for any information about mods for the Proxim Symphony cards.
Have tried Google but didn't find nothing useful.

Thanks.

Marcelo - PY3SS

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 167. [ss] RE: More thoughts

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Mon, 25 Nov 2002 08:36:53 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108423-2002.11.24-16.21.18--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> off a such slow speeds.  Maybe this is where we get
> "computer" help from
> some of the part 15 guys in exchange for our "RF" help.

This is what I'm advocating too.  There's a small number of us who know
something about both domains (pun not intended), but a  much larger body who
know one or the other.  Why not pool talent together?  I've got a couple of
the local 802.11b people keen to get their ham ticket, was talking to them
at our group's installfest on the weekend (and showing off a bit of 10m FM
propagation on the HT as the band was wide open :) ). One of the guys
indicated he's just got to get his last week of uni out the way and then
he's going to hit the books big time to get at least a Limited (29 MHz and
up) licence by early next year.

The next generation of ham is coming. :)

---
Outgoing mail has been scanned for Viruses
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.419 / Virus Database: 235 - Release Date: 13/11/2002

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## 168. [ss] Re: Proxim mods?

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Sun, 24 Nov 2002 15:51:27 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108425-2002.11.24-16.35.47--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>I'm looking for any information about mods for the Proxim Symphony cards.
>Have tried Google but didn't find nothing useful.
>
>              Thanks.
>              Marcelo - PY3SS

Not sure which mods exactly you seek.  But most of our origional work was based
around Proxim Symphony gear:

http://www.qsl.net/n9zia/wireless/
http://www.qsl.net/n9zia/wireless/cardmap.html

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 169. [ss] TAPR List Sponsorship

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Mon, 25 Nov 2002 09:37:40 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>

Cc: "TAPR Board of Directors" <tapr-board@lists.tapr.org>
Message-ID: <LYR6751-108442-2002.11.24-17.24.30--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

G'Day All

Thank you for reading this message. TAPR provides this mailing list
along with others as a service to their members and the Ham Radio
community in general. Providing this service and other services such as
our FTP site and the cost of developing new products like the Pic-E and
EasyTrak, costs money.

We are more than happy to provide these resources to the entire Ham
Radio community, but we do ask that you do concider joining TAPR. A good
way to see what we're up to is to take a look at the latest issue of our
quarterly journal, the  _Packet_Status_Register_ which is available for
download at
http://www.tapr.org/PSR

Membership in TAPR is only US$20 regardless of whether you live in
Tuscon, Arizona, or Sydney, Australia. If you want to join, or if your
membership is coming up for renewal, please visit www.tapr.org on the
Web for details. Specifically you can go to the following page for
information
        http://www.tapr.org/tapr/html/Fmembership.html

Darryl Smith, VK2TDS
TAPR Board Member

P.S. I have recently joined the board as its first non-North American
board member. As part of my Board duties, I have agreed to have overall
responsibility for membership. If anyone has any questions or concerns
about membership or TAPR in general, please EMAIL me. I can also be
contacted by phone with prior arrangement

---------
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
vk2tds@tapr.org | www.radio-active.net.au

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 170. [ss] Re: Proxim mods?

From: "Marcelo Puhl" <mark@cpovo.net>
Date: Sun, 24 Nov 2002 21:27:18 -0200
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108462-2002.11.24-18.10.56--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 24 Nov 2002 at 15:51, Steve Lampereur wrote:

> >I'm looking for any information about mods for the Proxim Symphony cards.
> >Have tried Google but didn't find nothing useful.
> >
> >              Thanks.
> >              Marcelo - PY3SS
>
> Not sure which mods exactly you seek.  But most of our original work was based
> around Proxim Symphony gear:
>
> http://www.qsl.net/n9zia/wireless/
> http://www.qsl.net/n9zia/wireless/cardmap.html
>

Thanks Steve, that is a good source.
There I found some very interesting mods.

Do you know of any mod to install an external antenna to the 4930 gateway?

Marcelo

---
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## 171. [ss] RE:ARRL HSMM Working Group....

From: Gerry Creager N5JXS <n5jxs@tamu.edu>
Date: Sun, 24 Nov 2002 22:46:26 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108505-2002.11.24-23.30.16--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The typical US Part 15 (has to accept all interference, has to cease and desist if causing interference, bought it at the office supply store and is required to not have any real knowledge of RF [as opposed to 'not required to have knowledge of RF'...], etc.:-) antenna is set up to be vertically polarized.  If you set the AP on the desk, the only, or best way, the antenna sits/fits is vertical.  Otherwise, if you place same on the wall, then it's "intuitive" to place the antennas so that they're vertically polarized...

That's probably the extent of "research" performed, but not a bad assumption.

gerry

Darryl Smith wrote:
> G'Day
>
>
>>Part 15 users are, for all practical purposes, all vertically
>
> polarized.
>
>>That provides a theoretical 20-25 dB separation between us and them.
>
>
> I am interested in what research has been done to prove that hypothesis.
> I did some commercial 802.11 consulting with one of the local ISP's down
> here on Friday, and they stated that they are using HORIZONTAL
> polarisation. This is the first ISP I have done any consulting with, and
> to find that they are using Horizontal is rather interesting.
>
> I you start looking into the Commercial ISP world I think you will find
> that a lot of them are starting to use slotted waveguide antennas which
> are designed to operate horizontal. (More information can be found on
> http://www.trevormarshall.com/waveguides.htm )
>
> Once the ISP's realise that they can double the number of access points
> with horizontal polarisation, I think that the ability for hams to use
> Horizontal as a way to stay away from commercial interests is going to
> be basically farcical.
>
> Darryl VK2TDS
>
> ---------
> Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
> Mobile Number 0412 929 634 [+61 4 12 929 634 International]
> Darryl@radio-active.net.au | www.radio-active.net.au
>
>
>
> ---
> You are currently subscribed to ss as: gerry.creager@tamu.edu
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>



---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 172. [ss] RE:ARRL HSMM Working Group....

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Mon, 25 Nov 2002 16:50:21 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108521-2002.11.25-00.40.04--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Eric Commented
>good info.  Personally, I think the only way we will be able to coexist

>is by changing some of the parameters of the spread spectrum engine

like
>the PNcodes or process gain.

Unfortunately the cost of modifying the equipment is only a minor cost. There are some other costs that need to be mentioned

a) FCC Approval Costs

b) Export approval.

If you change the PN code it makes it very hard for me to get one. You see I am in another country and you need to get an export license to get it to me since it is SS. And in order to be sold, many of these units have the PN code in the most protected microcode so that it cannot be modified. Since the US government would not like it if we modified it. Osama would be able to put this into his laptop and the US Secret Service would not be able to hack in.

>this is why I keep coming back to the importance of having the tapr/arrl
>negotiate with some board manufacturer to gain information on how to
>tweak the settings of a standard 802.11a/b card for our own purposes.

Much of the information needed is in the FCC filings for your particular network card. Have any of you checked out what information has been filed? In many cases full circuit diagrams have been made public. This allows the items to be modified at will.

If a person or a group were to come to TAPR with a proposal to do a TAPR 802.11 system we would look at it. But we need something to look at... And we need people who will actually do the work.

Until then we need to get more hams into the Wireless ISP world ensuring that they do things that are sound engineering... You never know what you might get out of it too... Apart from consulting income... One client came very close to buying a spectrum alanyser on Friday that I could have used anytime...

Darryl

---

Darryl Smith, VK2TDS  POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

-----Original Message-----
From: bounce-ss-5334@lists.tapr.org
[mailto:bounce-ss-5334@lists.tapr.org] On Behalf Of TAPR Spread Spectrum Special Interest Group digest
Sent: Monday, 25 November 2002 4:01 PM
To: ss digest recipients
Subject: ss digest: November 24, 2002

TAPR Spread Spectrum Special Interest Group Digest for Sunday, November 24, 2002.

1. RE:ARRL HSMM Working Group....
2. RE:ARRL HSMM Working Group....
3. RE:ARRL HSMM Working Group....
4. RE:ARRL HSMM Working Group....
5. RE:ARRL HSMM Working Group....
6. RE:ARRL HSMM Working Group....
7. RE:ARRL HSMM Working Group....
8. Proxim mods?
9. RE: More thoughts
10. Re: Proxim mods?
11. TAPR List Sponsorship
12. Re: Proxim mods?
13. RE:ARRL HSMM Working Group....

---

Subject: RE:ARRL HSMM Working Group....
From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Sun, 24 Nov 2002 16:44:32 +1100
X-Message-Number: 1

G'Day

>Part 15 users are, for all practical purposes, all vertically
polarized.
>That provides a theoretical 20-25 dB separation between us and them.

I am interested in what research has been done to prove that hypothesis.
I did some commercial 802.11 consulting with one of the local ISP's down
here on Friday, and they stated that they are using HORIZONTAL
polarisation. This is the first ISP I have done any consulting with, and
to find that they are using Horizontal is rather interesting.

I you start looking into the Commercial ISP world I think you will find
that a lot of them are starting to use slotted waveguide antennas which
are designed to operate horizontal. (More information can be found on
http://www.trevormarshall.com/waveguides.htm )

Once the ISP's realise that they can double the number of access points
with horizontal polarisation, I think that the ability for hams to use
Horizontal as a way to stay away from commercial interests is going to
be basically farcical.

Darryl VK2TDS

---
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

---

Subject: RE:ARRL HSMM Working Group....
From: Doug Rich <doug@the-one.com>
Date: Sun, 24 Nov 2002 09:14:02 -0700
X-Message-Number: 2

--=====================_3790348==.ALT
Content-Type: text/plain; charset="us-ascii"; format=flowed

>G'Day
>
> >Part 15 users are, for all practical purposes, all vertically
>polarized.
> >That provides a theoretical 20-25 dB separation between us and them.
>
>I am interested in what research has been done to prove that
>hypothesis. I did some commercial 802.11 consulting with one of the
>local ISP's down here on Friday, and they stated that they are using
>HORIZONTAL polarisation. This is the first ISP I have done any
>consulting with, and to find that they are using Horizontal is rather
>interesting.

I work for an ISP and install wireless Internet systems.  We use both
vertical and horizontal polarization. When we have an AP and a back haul

system at the same location we us both.
Doug W7DVR

>I you start looking into the Commercial ISP world I think you will find

>that a lot of them are starting to use slotted waveguide antennas which

>are designed to operate horizontal. (More information can be found on
>http://www.trevormarshall.com/waveguides.htm )
>
>Once the ISP's realise that they can double the number of access points

>with horizontal polarisation, I think that the ability for hams to use
>Horizontal as a way to stay away from commercial interests is going to
>be basically farcical.
>
>Darryl VK2TDS

--=====================_3790348==.ALT
Content-Type: text/html; charset="us-ascii"

<html>
<font size=3><br>
<blockquote type=cite class=cite cite>G'Day<br><br>
>Part 15 users are, for all practical purposes, all vertically<br>
polarized.  <br> >That provides a theoretical 20-25 dB
separation between us and them. <br><br> I am interested in what
research has been done to prove that hypothesis.<br> I did some
commercial 802.11 consulting with one of the local ISP's down<br> here
on Friday, and they stated that they are using HORIZONTAL<br>
polarisation. This is the first ISP I have done any consulting with,
and<br> to find that they are using Horizontal is rather
interesting.</font></blockquote><br>
<font color="#0000FF">I work for an ISP and install wireless Internet
systems.  We use both vertical and horizontal polarization.  When
we have an AP and a back haul system at the same location we us
both.<br> Doug W7DVR<br><br> <br> </font><blockquote type=cite
class=cite cite><font size=3>I you start looking into the Commercial ISP
world I think you will find<br> that a lot of them are starting to use
slotted waveguide antennas which<br> are designed to operate horizontal.
(More information can be found on<br> <a
href="http://www.trevormarshall.com/waveguides.htm"
eudora="autourl">http://www.trevormarshall.com/waveguides.htm</a>
)<br><br>
Once the ISP's realise that they can double the number of access
points<br> with horizontal polarisation, I think that the ability for
hams to use<br> Horizontal as a way to stay away from commercial
interests is going to<br> be basically farcical.<br><br> Darryl
VK2TDS</font></blockquote></html>

--=====================_3790348==.ALT--

---

Subject: RE:ARRL HSMM Working Group....
From:     Jeff King <jeff@aerodata.net>
Date: Sun, 24 Nov 2002 11:44:40 -0500
X-Message-Number: 3

Darryl:

I can't answer your questions, but in the U.S. Part 15 users have=  a
requirement to avoid interfering with Part 97 stations to the=  extent a
part
15 user can be compelled to shut down their station if it can be=
demonstrated
their operations stop communications of a Part 97 station.

Now, with you average off the shelf Part 15 WLAN system, which is=
vertical,
trying to do this would be like herding cats. However, with a=  WISP,
which is
a "static target" they could be compelled to work with hams in=  the
area (or
be forced off the air).

I am not in any way suggesting hams chase after WISP's (Wireless=
ISP's). In
fact, if this where done with no basis I'd be the first one=  trying to
defend
these guys... they provide a much needed service. But many of=  them
don't have
a clue as to what they are doing and are "bad RF citizens". These=
would be
the one's ham's need to use a stick on.

--
Jeff King, jeff@aerodata.net on 11/24/2002

On Sun, 24 Nov 2002 16:44:32 +1100, Darryl Smith wrote:
>G'Day
>

>>Part 15 users are, for all practical purposes, all vertically
>polarized.
>>That provides a theoretical 20-25 dB separation between us and them.
>
>I am interested in what research has been done to prove that
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>I you start looking into the Commercial ISP world I think you=
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>Darryl VK2TDS
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>---------
>Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
>Mobile Number 0412 929 634 [+61 4 12 929 634 International]
>Darryl@radio-active.net.au | www.radio-active.net.au
>
>
>
>---
>You are currently subscribed to ss as: jeff@aerodata.net
>To unsubscribe send a blank email to=
 leave-ss-6751T@lists.tapr.org

---

Subject: RE:ARRL HSMM Working Group....
From: "jeff millar" <jeff@wa1hco.mv.com>
Date: Sun, 24 Nov 2002 11:48:16 -0500
X-Message-Number: 4

20-25 dB of polarization isolation depends on a free space path between
transmitter and receiver.  In a multipath environment, the polarization
rotates every time it bounces off and object.  By the time it gets to
the receiver, polarization becomes mostly random.

In the Cellular (850 MHz) and PCS (1900 MHz) propagation, base stations
often receive the signal on both polarities and combine them for best
reception.  When the vertical component has a deep fade, the horizontal
component most often doesn't have a fade.  Measurements show about 6 dB
improvement in net performance by receiving both channels.

The only way to get a free space environment for polarization isolation
purposes is to place the interferring source antenna so that the beam
does not splash into the ground or other object along its path.

jeff, wa1hco

----- Original Message -----

From: "Darryl Smith" <Darryl@radio-active.net.au>
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Sent: Sunday, November 24, 2002 12:44 AM
Subject: [ss] RE:ARRL HSMM Working Group....


> G'Day
>
> >Part 15 users are, for all practical purposes, all vertically
> polarized.
> >That provides a theoretical 20-25 dB separation between us and them.
>
> I am interested in what research has been done to prove that
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> local ISP's down here on Friday, and they stated that they are using
> HORIZONTAL polarisation. This is the first ISP I have done any
> consulting with, and to find that they are using Horizontal is rather
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>
> I you start looking into the Commercial ISP world I think you will
> find that a lot of them are starting to use slotted waveguide antennas

> which are designed to operate horizontal. (More information can be
> found on http://www.trevormarshall.com/waveguides.htm )
>
> Once the ISP's realise that they can double the number of access
> points with horizontal polarisation, I think that the ability for hams

> to use Horizontal as a way to stay away from commercial interests is
> going to be basically farcical.
>
> Darryl VK2TDS
>
> ---------
> Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
> Mobile Number 0412 929 634 [+61 4 12 929 634 International]
> Darryl@radio-active.net.au | www.radio-active.net.au
>
>
>
> ---
> You are currently subscribed to ss as: JEFF@WA1HCO.MV.COM
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>


---

Subject: RE:ARRL HSMM Working Group....
From: "Eric S. Johansson" <esj@harvee.billerica.ma.us>
Date: Sun, 24 Nov 2002 12:09:28 -0500
X-Message-Number: 5

Darryl Smith wrote:
> G'Day
>
>
>>Part 15 users are, for all practical purposes, all vertically
>
> polarized.
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>>That provides a theoretical 20-25 dB separation between us and them.
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> I am interested in what research has been done to prove that
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> local ISP's down here on Friday, and they stated that they are using
> HORIZONTAL polarisation. This is the first ISP I have done any
> consulting with, and to find that they are using Horizontal is rather
> interesting.

good info.  Personally, I think the only way we will be able to coexist
is by changing some of the parameters of the spread spectrum engine like

the PNcodes or process gain.

this is why I keep coming back to the importance of having the tapr/arrl

negotiate with some board manufacturer to gain information on how to
tweak the settings of a standard 802.11a/b card for our own purposes.

---eric

---

Subject: RE:ARRL HSMM Working Group....
From: Jeff King <jeff@aerodata.net>
Date: Sun, 24 Nov 2002 12:31:31 -0500
X-Message-Number: 6

>this is why I keep coming back to the importance of having the
>tapr/arrl negotiate with some board manufacturer to gain information
>on=
how to
>tweak the settings of a standard 802.11a/b card for our own=
purposes.

I think that has been discussed in the HSMM in general terms (and= I do
not
speak for them).

However, anything like this would require at least a $25K=
commitment... I
know this because a company I do some work for was going to= license
some
802.11b designs and this is the cost of the license. Maybe a way= could
be
found to do it cheaper (this was from a meeting I had with= Intersil
and a few
Taiwan manufacturers).

Long term, I think what you are suggesting is a good idea, but= very
few hams
even understand what spread spectrum is, let alone are operating= it.
I'd
first worry about getting some part 97 activity, then go for=
perfection.

--
Jeff King, jeff@aerodata.net on 11/24/2002

On Sun, 24 Nov 2002 12:09:28 -0500, Eric S. Johansson wrote:
>Darryl Smith wrote:
>>G'Day
>>
>>
>>>Part 15 users are, for all practical purposes, all vertically
>>
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>>here on Friday, and they stated that they are using HORIZONTAL
>>polarisation. This is the first ISP I have done any consulting with,
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>good info. Personally, I think the only way we will be able to coexist
>is by changing some of the parameters of the spread spectrum=
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>the PNcodes or process gain.
>
>this is why I keep coming back to the importance of having the
>tapr/arrl negotiate with some board manufacturer to gain information
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how to
>tweak the settings of a standard 802.11a/b card for our own=
 purposes.
>
>---eric
>
>
>---
>You are currently subscribed to ss as: jeff@aerodata.net
>To unsubscribe send a blank email to=
 leave-ss-6751T@lists.tapr.org

---

Subject: RE:ARRL HSMM Working Group....
From: "Eric S. Johansson" <esj@harvee.billerica.ma.us>
Date: Sun, 24 Nov 2002 13:51:13 -0500
X-Message-Number: 7

Jeff King wrote:
>>this is why I keep coming back to the importance of having the
>>tapr/arrl negotiate with some board manufacturer to gain information
>>on how to tweak the settings of a standard 802.11a/b card for our own
>>purposes.
>
>
> I think that has been discussed in the HSMM in general terms (and I do

> not
> speak for them).
>
> However, anything like this would require at least a $25K
> commitment... I
> know this because a company I do some work for was going to license
some
> 802.11b designs and this is the cost of the license. Maybe a way could
be
> found to do it cheaper (this was from a meeting I had with Intersil
and a few
> Taiwan manufacturers).

I was under the impression that most of the spread spectrum hardware had

significant "programmability" and just by tweaking some registers in the

right way, we could control enough of the parameters to reduce our
interference potential with the stock 802.11 systems.  Now, if all of
these parameters have been locked down in hardware in the name of cost
reductions, then yes, I can see the reason for a $25,000 commitment for
chip/board rework/license fees.

any idea how we can get this information?

> Long term, I think what you are suggesting is a good idea, but very
> few hams
> even understand what spread spectrum is, let alone are operating it.
I'd
> first worry about getting some part 97 activity, then go for
perfection.

I agree.  Which brings me to my second rant.

I've been watching the conversation over the past few weeks and it seems

to me that a lot other reason we don't have any activity is because we
don't have a common platform from which to launch the activity.

I believe we need a common platform for 802.11 experimentation that will

serve a similar purpose to that of the TNC only more so.  Yes, the
openAP project has identified some potential boards but I believe them
to be as ephemeral as soap bubbles on a summer day.  On the other hand,
a basic microprocessor platform (arm/Intel CPU, flash, RAM) with
ethernet and PCMCIA could probably be built and sold for under a couple
hundred dollars like... http://www.soekris.com/net4511.htm which sells

for under $200 in qty 1.

TAPR/ARRL could arrange for group purchases, standardized tools, mailing

lists, support, etc. and make a board like this the standard platform
for 802.11 experimentation.  The only thing I'm not happy with is that
it's a relatively slow CPU but in reality, it will do everything we
need.

yes, I can purchase the board myself and play with it but I'd rather
head off in the same direction as everyone else and be part of the
network rather than off in the weeds enjoying pretty flowers (this
time).

---eric

---

Subject: Proxim mods?
From: "Marcelo Puhl" <mark@cpovo.net>
Date: Sun, 24 Nov 2002 18:03:59 -0200
X-Message-Number: 8

Hi,

I'm looking for any information about mods for the Proxim Symphony
cards. Have tried Google but didn't find nothing useful.

Thanks.
Marcelo - PY3SS

---

Subject: RE: More thoughts
From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Mon, 25 Nov 2002 08:36:53 +1100
X-Message-Number: 9

> off a such slow speeds.  Maybe this is where we get=20 "computer" help

> from some of the part 15 guys in exchange for our "RF" help.

This is what I'm advocating too.  There's a small number of us who know
something about both domains (pun not intended), but a  much larger =
body who know one or the other.  Why not pool talent together?  I've got
a = couple of the local 802.11b people keen to get their ham ticket, was
talking to = them at our group's installfest on the weekend (and showing
off a bit of 10m = FM propagation on the HT as the band was wide open :)
). One of the guys indicated he's just got to get his last week of uni
out the way and = then he's going to hit the books big time to get at
least a Limited (29 MHz = and
up) licence by early next year.=20

The next generation of ham is coming. :)

---
Outgoing mail has been scanned for Viruses
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.419 / Virus Database: 235 - Release Date: 13/11/2002 =20

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contain confidential or legally privileged information or both. No =
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it from your system = and notify the sender. You must not disclose, copy
or rely on any part of = this correspondence if you are not the intended
recipient.

Any opinions expressed in this message are those of the individual =
sender.

---

Subject: Re: Proxim mods?
From: Steve Lampereur <kb9mwr@yahoo.com>

Date: Sun, 24 Nov 2002 15:51:27 -0600
X-Message-Number: 10

>I'm looking for any information about mods for the Proxim Symphony
>cards. Have tried Google but didn't find nothing useful.
>
>              Thanks.
>              Marcelo - PY3SS

Not sure which mods exactly you seek.  But most of our origional work
was based
around Proxim Symphony gear:

http://www.qsl.net/n9zia/wireless/
http://www.qsl.net/n9zia/wireless/cardmap.html

---

Subject: TAPR List Sponsorship
From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Mon, 25 Nov 2002 09:37:40 +1100
X-Message-Number: 11

G'Day All

Thank you for reading this message. TAPR provides this mailing list
along with others as a service to their members and the Ham Radio
community in general. Providing this service and other services such as
our FTP site and the cost of developing new products like the Pic-E and
EasyTrak, costs money.

We are more than happy to provide these resources to the entire Ham
Radio community, but we do ask that you do concider joining TAPR. A good
way to see what we're up to is to take a look at the latest issue of our
quarterly journal, the  _Packet_Status_Register_ which is available for
download at
http://www.tapr.org/PSR

Membership in TAPR is only US$20 regardless of whether you live in
Tuscon, Arizona, or Sydney, Australia. If you want to join, or if your
membership is coming up for renewal, please visit www.tapr.org on the
Web for details. Specifically you can go to the following page for
information
        http://www.tapr.org/tapr/html/Fmembership.html

Darryl Smith, VK2TDS
TAPR Board Member

P.S. I have recently joined the board as its first non-North American
board member. As part of my Board duties, I have agreed to have overall
responsibility for membership. If anyone has any questions or concerns
about membership or TAPR in general, please EMAIL me. I can also be
contacted by phone with prior arrangement

---------
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
vk2tds@tapr.org | www.radio-active.net.au

---

Subject: Re: Proxim mods?
From: "Marcelo Puhl" <mark@cpovo.net>
Date: Sun, 24 Nov 2002 21:27:18 -0200
X-Message-Number: 12

On 24 Nov 2002 at 15:51, Steve Lampereur wrote:

> >I'm looking for any information about mods for the Proxim Symphony
> >cards. Have tried Google but didn't find nothing useful.
> >
> >              Thanks.
> >              Marcelo - PY3SS
>
> Not sure which mods exactly you seek.  But most of our original work
> was based

> around Proxim Symphony gear:
>
> http://www.qsl.net/n9zia/wireless/
> http://www.qsl.net/n9zia/wireless/cardmap.html
>
Thanks Steve, that is a good source.
There I found some very interesting mods.

Do you know of any mod to install an external antenna to the 4930
gateway?

Marcelo

---

Subject: RE:ARRL HSMM Working Group....
From: Gerry Creager N5JXS <n5jxs@tamu.edu>
Date: Sun, 24 Nov 2002 22:46:26 -0600
X-Message-Number: 13

The typical US Part 15 (has to accept all interference, has to cease and

desist if causing interference, bought it at the office supply store and

is required to not have any real knowledge of RF [as opposed to 'not
required to have knowledge of RF'...], etc.:-) antenna is set up to be
vertically polarized.  If you set the AP on the desk, the only, or best
way, the antenna sits/fits is vertical.  Otherwise, if you place same on

the wall, then it's "intuitive" to place the antennas so that they're
vertically polarized...

That's probably the extent of "research" performed, but not a bad
assumption.

gerry

Darryl Smith wrote:
> G'Day
>
>
>>Part 15 users are, for all practical purposes, all vertically
>
> polarized.
>
>>That provides a theoretical 20-25 dB separation between us and them.
>
>
> I am interested in what research has been done to prove that
> hypothesis. I did some commercial 802.11 consulting with one of the
> local ISP's down here on Friday, and they stated that they are using
> HORIZONTAL polarisation. This is the first ISP I have done any
> consulting with, and to find that they are using Horizontal is rather
> interesting.
>
> I you start looking into the Commercial ISP world I think you will
> find that a lot of them are starting to use slotted waveguide antennas

> which are designed to operate horizontal. (More information can be
> found on http://www.trevormarshall.com/waveguides.htm )
>
> Once the ISP's realise that they can double the number of access
> points with horizontal polarisation, I think that the ability for hams

> to use Horizontal as a way to stay away from commercial interests is
> going to be basically farcical.
>
> Darryl VK2TDS
>
> ---------
> Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
> Mobile Number 0412 929 634 [+61 4 12 929 634 International]
> Darryl@radio-active.net.au | www.radio-active.net.au
>
>
>
> ---
> You are currently subscribed to ss as: gerry.creager@tamu.edu To
> unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

>

---

END OF DIGEST

---
You are currently subscribed to ss as: darryl@radio-active.net.au To
unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 173. [ss] Re: ss digest: November 24, 2002

From: "John Champa" <k8ocl@hotmail.com>
Date: Mon, 25 Nov 2002 10:03:11 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108551-2002.11.25-09.47.34--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Greetings!

Horizontal polarization, as I stated in my last posting, is only ONE means
we are using to separate our SS test nodes from most Part 15 users.  In
addition, it appears to get through the trees around here better than
vertical polarization (HI).

Most importantly, Hams need to agree on SOMETHING regarding 802.11b if it is
to ever be effectively and econoimically re-utilizated under Part 97.  This
is really nothing more than the what Hams customerily do to agree on
polarizations for other "new" modes, e.g. I do not recommend you try working
2M SSB DX using a vertically polarized beam...not that it can't be done
(HI).

Now, let's focus on some REAL technical issues, instead of the tiny, nic
picking armchair debates and negative characterizations this webpage is so
well known for, OK?

Please re-read with care Jeff's profound comments, questions, and concerns
mentioned previously.  Thank you!

Vy 73,
John Champa, K8OCL
ARRL Chairman
HSMM Working Group
k8ocl@arrl.net

From: "TAPR Spread Spectrum Special Interest Group digest"
<ss@lists.tapr.org>
Reply-To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
To: "ss digest recipients" <ss@lists.tapr.org>
Subject: ss digest: November 24, 2002
Date: Mon, 25 Nov 2002 00:00:37 -0500

TAPR Spread Spectrum Special Interest Group Digest for Sunday, November 24,
2002.

1. RE:ARRL HSMM Working Group....
2. RE:ARRL HSMM Working Group....
3. RE:ARRL HSMM Working Group....
4. RE:ARRL HSMM Working Group....
5. RE:ARRL HSMM Working Group....
6. RE:ARRL HSMM Working Group....
7. RE:ARRL HSMM Working Group....
8. Proxim mods?
9. RE: More thoughts
10. Re: Proxim mods?

11. TAPR List Sponsorship
12. Re: Proxim mods?
13. RE:ARRL HSMM Working Group....

---

Subject: RE:ARRL HSMM Working Group....
From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Sun, 24 Nov 2002 16:44:32 +1100
X-Message-Number: 1

G'Day

 >Part 15 users are, for all practical purposes, all vertically
polarized.
 >That provides a theoretical 20-25 dB separation between us and them.

I am interested in what research has been done to prove that hypothesis.
I did some commercial 802.11 consulting with one of the local ISP's down
here on Friday, and they stated that they are using HORIZONTAL
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to find that they are using Horizontal is rather interesting.

I you start looking into the Commercial ISP world I think you will find
that a lot of them are starting to use slotted waveguide antennas which
are designed to operate horizontal. (More information can be found on
http://www.trevormarshall.com/waveguides.htm )

Once the ISP's realise that they can double the number of access points
with horizontal polarisation, I think that the ability for hams to use
Horizontal as a way to stay away from commercial interests is going to
be basically farcical.

Darryl VK2TDS

---
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

---

Subject: RE:ARRL HSMM Working Group....
From: Doug Rich <doug@the-one.com>
Date: Sun, 24 Nov 2002 09:14:02 -0700
X-Message-Number: 2

--=====================_3790348==.ALT
Content-Type: text/plain; charset="us-ascii"; format=flowed

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 >polarisation. This is the first ISP I have done any consulting with, and
 >to find that they are using Horizontal is rather interesting.

I work for an ISP and install wireless Internet systems.  We use both
vertical and horizontal polarization. When we have an AP and a back haul
system at the same location we us both.
Doug W7DVR

 >I you start looking into the Commercial ISP world I think you will find
 >that a lot of them are starting to use slotted waveguide antennas which
 >are designed to operate horizontal. (More information can be found on
 >http://www.trevormarshall.com/waveguides.htm )
 >
 >Once the ISP's realise that they can double the number of access points
 >with horizontal polarisation, I think that the ability for hams to use
 >Horizontal as a way to stay away from commercial interests is going to

```
 >be basically farcical.
 >
 >Darryl VK2TDS

--=====================_3790348==.ALT
Content-Type: text/html; charset="us-ascii"

<html>
<font size=3><br>
<blockquote type=cite class=cite cite>G'Day<br><br>
&gt;Part 15 users are, for all practical purposes, all vertically<br>
polarized.  <br>
&gt;That provides a theoretical 20-25 dB separation between us and them.
<br><br>
I am interested in what research has been done to prove that
hypothesis.<br>
I did some commercial 802.11 consulting with one of the local ISP's
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and<br>
to find that they are using Horizontal is rather
interesting.</font></blockquote><br>
<font color="#0000FF"><b>I work for an ISP and install wireless Internet
systems.  We use both vertical and horizontal polarization.  When we
have an AP and a back haul system at the same location we us both.<br>
Doug W7DVR<br><br>
<br>
</b></font><blockquote type=cite class=cite cite><font size=3>I you start
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eudora="autourl">http://www.trevormarshall.com/waveguides.htm</a>
)<br><br>
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Horizontal as a way to stay away from commercial interests is going to<br>
be basically farcical.<br><br>
Darryl VK2TDS</font></blockquote></html>

--=====================_3790348==.ALT--



------------------------------------------------------------------------

Subject: RE:ARRL HSMM Working Group....
From:     Jeff King <jeff@aerodata.net>
Date: Sun, 24 Nov 2002 11:44:40 -0500
X-Message-Number: 3

Darryl:

I can't answer your questions, but in the U.S. Part 15 users have=
  a
requirement to avoid interfering with Part 97 stations to the=
  extent a part
15 user can be compelled to shut down their station if it can be=
  demonstrated
their operations stop communications of a Part 97 station.

Now, with you average off the shelf Part 15 WLAN system, which is=
  vertical,
trying to do this would be like herding cats. However, with a=
  WISP, which is
a "static target" they could be compelled to work with hams in=
  the area (or
be forced off the air).

I am not in any way suggesting hams chase after WISP's (Wireless=
  ISP's). In
fact, if this where done with no basis I'd be the first one=
  trying to defend
these guys... they provide a much needed service. But many of=
  them don't have
a clue as to what they are doing and are "bad RF citizens". These=
```

would be
the one's ham's need to use a stick on.

--
Jeff King, jeff@aerodata.net on 11/24/2002

On Sun, 24 Nov 2002 16:44:32 +1100, Darryl Smith wrote:
>G'Day
>
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>>That provides a theoretical 20-25 dB separation between us and
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>Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
>Mobile Number 0412 929 634 [+61 4 12 929 634 International]
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>
>
>
>---
>You are currently subscribed to ss as: jeff@aerodata.net
>To unsubscribe send a blank email to=
leave-ss-6751T@lists.tapr.org

---

Subject: RE:ARRL HSMM Working Group....
From: "jeff millar" <jeff@wa1hco.mv.com>
Date: Sun, 24 Nov 2002 11:48:16 -0500
X-Message-Number: 4

20-25 dB of polarization isolation depends on a free space path between
transmitter and receiver.  In a multipath environment, the polarization
rotates every time it bounces off and object.  By the time it gets to the
receiver, polarization becomes mostly random.

In the Cellular (850 MHz) and PCS (1900 MHz) propagation, base stations
often receive the signal on both polarities and combine them for best
reception.  When the vertical component has a deep fade, the horizontal
component most often doesn't have a fade.  Measurements show about 6 dB
improvement in net performance by receiving both channels.

The only way to get a free space environment for polarization isolation
purposes is to place the interferring source antenna so that the beam does
not splash into the ground or other object along its path.

jeff, wa1hco

----- Original Message -----
From: "Darryl Smith" <Darryl@radio-active.net.au>
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Sent: Sunday, November 24, 2002 12:44 AM
Subject: [ss] RE:ARRL HSMM Working Group....


 > G'Day
 >
 > >Part 15 users are, for all practical purposes, all vertically
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 > >That provides a theoretical 20-25 dB separation between us and them.
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 > Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
 > Mobile Number 0412 929 634 [+61 4 12 929 634 International]
 > Darryl@radio-active.net.au | www.radio-active.net.au
 >
 >
 >
 > ---
 > You are currently subscribed to ss as: JEFF@WA1HCO.MV.COM
 > To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
 >
 >


---

Subject: RE:ARRL HSMM Working Group....
From: "Eric S. Johansson" <esj@harvee.billerica.ma.us>
Date: Sun, 24 Nov 2002 12:09:28 -0500
X-Message-Number: 5

Darryl Smith wrote:
 > G'Day
 >
 >
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 > polarized.
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> to find that they are using Horizontal is rather interesting.

good info.  Personally, I think the only way we will be able to coexist
is by changing some of the parameters of the spread spectrum engine like
the PNcodes or process gain.

this is why I keep coming back to the importance of having the tapr/arrl
negotiate with some board manufacturer to gain information on how to
tweak the settings of a standard 802.11a/b card for our own purposes.

---eric

---

Subject: RE:ARRL HSMM Working Group....
From:     Jeff King <jeff@aerodata.net>
Date: Sun, 24 Nov 2002 12:31:31 -0500
X-Message-Number: 6

>this is why I keep coming back to the importance of having the
>tapr/arrl
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I think that has been discussed in the HSMM in general terms (and=
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However, anything like this would require at least a $25K=
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know this because a company I do some work for was going to=
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Long term, I think what you are suggesting is a good idea, but=
very few hams
even understand what spread spectrum is, let alone are operating=
it. I'd
first worry about getting some part 97 activity, then go for=
perfection.

--
Jeff King, jeff@aerodata.net on 11/24/2002

On Sun, 24 Nov 2002 12:09:28 -0500, Eric S. Johansson wrote:
>Darryl Smith wrote:
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>You are currently subscribed to ss as: jeff@aerodata.net
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---

Subject: RE:ARRL HSMM Working Group....
From: "Eric S. Johansson" <esj@harvee.billerica.ma.us>
Date: Sun, 24 Nov 2002 13:51:13 -0500
X-Message-Number: 7
Jeff King wrote:
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>>tapr/arrl
>>negotiate with some board manufacturer to gain information on how to
>>tweak the settings of a standard 802.11a/b card for our own purposes.
>
>
> I think that has been discussed in the HSMM in general terms (and I do
not
> speak for them).
>
> However, anything like this would require at least a $25K commitment... I
> know this because a company I do some work for was going to license some
> 802.11b designs and this is the cost of the license. Maybe a way could be
> found to do it cheaper (this was from a meeting I had with Intersil and a
few
> Taiwan manufacturers).

I was under the impression that most of the spread spectrum hardware had
significant "programmability" and just by tweaking some registers in the
right way, we could control enough of the parameters to reduce our
interference potential with the stock 802.11 systems.  Now, if all of
these parameters have been locked down in hardware in the name of cost
reductions, then yes, I can see the reason for a $25,000 commitment for
chip/board rework/license fees.

any idea how we can get this information?

> Long term, I think what you are suggesting is a good idea, but very few
hams
> even understand what spread spectrum is, let alone are operating it. I'd
> first worry about getting some part 97 activity, then go for perfection.

I agree.  Which brings me to my second rant.

I've been watching the conversation over the past few weeks and it seems
to me that a lot other reason we don't have any activity is because we
don't have a common platform from which to launch the activity.

I believe we need a common platform for 802.11 experimentation that will
serve a similar purpose to that of the TNC only more so.  Yes, the
openAP project has identified some potential boards but I believe them
to be as ephemeral as soap bubbles on a summer day.  On the other hand,
a basic microprocessor platform (arm/Intel CPU, flash, RAM) with
ethernet and PCMCIA could probably be built and sold for under a couple
hundred dollars like... http://www.soekris.com/net4511.htm which sells
for under $200 in qty 1.

TAPR/ARRL could arrange for group purchases, standardized tools, mailing
lists, support, etc. and make a board like this the standard platform
for 802.11 experimentation.  The only thing I'm not happy with is that
it's a relatively slow CPU but in reality, it will do everything we need.

yes, I can purchase the board myself and play with it but I'd rather
head off in the same direction as everyone else and be part of the
network rather than off in the weeds enjoying pretty flowers (this time).

---eric

---

Subject: Proxim mods?
From: "Marcelo Puhl" <mark@cpovo.net>
Date: Sun, 24 Nov 2002 18:03:59 -0200
X-Message-Number: 8

Hi,

I'm looking for any information about mods for the Proxim Symphony cards.
Have tried Google but didn't find nothing useful.

Thanks.
Marcelo - PY3SS

---

Subject: RE: More thoughts
From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Mon, 25 Nov 2002 08:36:53 +1100
X-Message-Number: 9

 > off a such slow speeds.  Maybe this is where we get=20
 > "computer" help from
 > some of the part 15 guys in exchange for our "RF" help.

This is what I'm advocating too.  There's a small number of us who know
something about both domains (pun not intended), but a  much larger =
body who
know one or the other.  Why not pool talent together?  I've got a =
couple of
the local 802.11b people keen to get their ham ticket, was talking to =
them
at our group's installfest on the weekend (and showing off a bit of 10m =
FM
propagation on the HT as the band was wide open :) ). One of the guys
indicated he's just got to get his last week of uni out the way and =
then
he's going to hit the books big time to get at least a Limited (29 MHz =
and
up) licence by early next year.=20

The next generation of ham is coming. :)

---
Outgoing mail has been scanned for Viruses
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.419 / Virus Database: 235 - Release Date: 13/11/2002
=20

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this
correspondence if you are not the intended recipient.

Any opinions expressed in this message are those of the individual =
sender.

---

Subject: Re: Proxim mods?
From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Sun, 24 Nov 2002 15:51:27 -0600
X-Message-Number: 10

 >I'm looking for any information about mods for the Proxim Symphony cards.
 >Have tried Google but didn't find nothing useful.
 >
 >              Thanks.
 >              Marcelo - PY3SS

Not sure which mods exactly you seek.  But most of our origional work was
based
around Proxim Symphony gear:

http://www.qsl.net/n9zia/wireless/
http://www.qsl.net/n9zia/wireless/cardmap.html

---

Subject: TAPR List Sponsorship
From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Mon, 25 Nov 2002 09:37:40 +1100
X-Message-Number: 11

G'Day All

Thank you for reading this message. TAPR provides this mailing list
along with others as a service to their members and the Ham Radio
community in general. Providing this service and other services such as
our FTP site and the cost of developing new products like the Pic-E and
EasyTrak, costs money.

We are more than happy to provide these resources to the entire Ham
Radio community, but we do ask that you do concider joining TAPR. A good
way to see what we're up to is to take a look at the latest issue of our
quarterly journal, the  _Packet_Status_Register_ which is available for
download at
http://www.tapr.org/PSR

Membership in TAPR is only US$20 regardless of whether you live in
Tuscon, Arizona, or Sydney, Australia. If you want to join, or if your
membership is coming up for renewal, please visit www.tapr.org on the
Web for details. Specifically you can go to the following page for
information
        http://www.tapr.org/tapr/html/Fmembership.html

Darryl Smith, VK2TDS
TAPR Board Member

P.S. I have recently joined the board as its first non-North American
board member. As part of my Board duties, I have agreed to have overall
responsibility for membership. If anyone has any questions or concerns
about membership or TAPR in general, please EMAIL me. I can also be
contacted by phone with prior arrangement

---------
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
vk2tds@tapr.org | www.radio-active.net.au

---

Subject: Re: Proxim mods?
From: "Marcelo Puhl" <mark@cpovo.net>
Date: Sun, 24 Nov 2002 21:27:18 -0200
X-Message-Number: 12

On 24 Nov 2002 at 15:51, Steve Lampereur wrote:

 > >I'm looking for any information about mods for the Proxim Symphony
cards.

> >Have tried Google but didn't find nothing useful.
> >
> >              Thanks.
> >              Marcelo - PY3SS
>
> Not sure which mods exactly you seek.  But most of our original work was
based
> around Proxim Symphony gear:
>
> http://www.qsl.net/n9zia/wireless/
> http://www.qsl.net/n9zia/wireless/cardmap.html
>

Thanks Steve, that is a good source.
There I found some very interesting mods.

Do you know of any mod to install an external antenna to the 4930 gateway?

Marcelo

---

Subject: RE:ARRL HSMM Working Group....
From: Gerry Creager N5JXS <n5jxs@tamu.edu>
Date: Sun, 24 Nov 2002 22:46:26 -0600
X-Message-Number: 13

The typical US Part 15 (has to accept all interference, has to cease and
desist if causing interference, bought it at the office supply store and
is required to not have any real knowledge of RF [as opposed to 'not
required to have knowledge of RF'...], etc.:-) antenna is set up to be
vertically polarized.  If you set the AP on the desk, the only, or best
way, the antenna sits/fits is vertical.  Otherwise, if you place same on
the wall, then it's "intuitive" to place the antennas so that they're
vertically polarized...
That's probably the extent of "research" performed, but not a bad
assumption.

gerry

Darryl Smith wrote:
> G'Day
>
>
>>Part 15 users are, for all practical purposes, all vertically
>
> polarized.
>
>>That provides a theoretical 20-25 dB separation between us and them.
>
>
> I am interested in what research has been done to prove that hypothesis.
> I did some commercial 802.11 consulting with one of the local ISP's down
> here on Friday, and they stated that they are using HORIZONTAL
> polarisation. This is the first ISP I have done any consulting with, and
> to find that they are using Horizontal is rather interesting.
>
> I you start looking into the Commercial ISP world I think you will find
> that a lot of them are starting to use slotted waveguide antennas which
> are designed to operate horizontal. (More information can be found on
> http://www.trevormarshall.com/waveguides.htm )
>
> Once the ISP's realise that they can double the number of access points
> with horizontal polarisation, I think that the ability for hams to use
> Horizontal as a way to stay away from commercial interests is going to
> be basically farcical.
>
> Darryl VK2TDS
>
> ---------
> Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
> Mobile Number 0412 929 634 [+61 4 12 929 634 International]
> Darryl@radio-active.net.au | www.radio-active.net.au
>
>
>
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> You are currently subscribed to ss as: gerry.creager@tamu.edu
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>

---

END OF DIGEST

---
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_____
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## 174. [ss] RE: HSMM Experimenters Group

From: "Steve Stroh" <lists@strohpub.com>
Date: Mon, 25 Nov 2002 21:23:08 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108610-2002.11.26-00.09.04--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thanks for Darryl for highlighting this. I missed it when first posted.

I had a discussion with a large Wireless ISP in the Northeast this morning,
and learned that he operates two parallel 2.4 GHz systems from each tower.
His FHSS systems use sectorized vertical polarization antennas, and the
802.11b systems use omnidirectional horizontal polarization antennas.

Many Wireless ISPs make use of both polarizations on 2.4 GHz to increase
their density of coverage. Those that haven't done so to date are now doing
so as the availability, quality, and cost-effectiveness of horizontal
polarization sectorized and omni antennas has increased dramatically.

And yes... Amateurs operating in their sections of 2.4 GHz are technically
within their rights to request "cease and desist" to Wireless ISPs using
Part 15 equipment on 2.4 GHz. I submit that such an approach is extremely
short-sighted on the part of Amateur Radio as a whole, and will be a case of
"win the battle, lose the war". Note that there is significant momentum
building in, of all places, the US Congress and Senate for allocating
additional license-exempt spectrum. Wireless ISPs are specifically mentioned
as users of that additional spectrum. Amateur Radio Operators are not
mentioned as users of that additional spectrum. Draw your own conclusions.

Thanks,

Steve N8GNJ

--
Steve Stroh   steve@strohpub.com  425-481-0600

> -----Original Message-----
> From: bounce-ss-24593@lists.tapr.org
> [mailto:bounce-ss-24593@lists.tapr.org]On Behalf Of John Champa
> Sent: Sunday, October 20, 2002 22:19
> To: TAPR Spread Spectrum Special Interest Group
> Cc: kilo.mike@gte.net
> Subject: [ss] HSMM Experimenters Group

<snip>

> The ARRL 802.11b Standard protocol we are developing, coupled with the
> exclusive use of horizontal polarization, keeps us out of the way of the
> Part 15 vertically polarized users throughout the area, and BTW, gets
> through the trees better than vertical polarization.

<snip>

> Vy 73,
> John - K8OCL
> Chairman, ARRL HSMM Working Group

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 175. [ss] Inputs on Amateur Radio usage of 2.4 GHz

From: "Steve Stroh" <lists@strohpub.com>
Date: Mon, 25 Nov 2002 22:44:48 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108621-2002.11.26-01.30.49--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

John:

Agreed wholeheartedly that there is way too much "you shouldn't DO that" commentary on this list, and many others.

Where I, and many others, depart from the ARRL's efforts to "take back 2.4 GHz" using Amateur-specific implementations of 802.11b, is to understand what significant differentiation can be offered by doing so.

One problem with operating under Part 97 (at least in theory... which consumes WAY too much bandwidth, thoughts, angst, etc.) are the Amateur Radio content restrictions.

The bottom line to me in the "use 802.11b under Part 97" versus "use 802.11b under Part 15" is that absent significant differentiation of Part 97 operations, it's far simpler and easier to operate under Part 15 rules. No issues with Internet interconnection, content, encryption, etc.

Some years ago I made the comment that at more and more of the meetings of the Puget Sound Amateur Radio TCP/IP Group that the attendees were showing up with laptops... and no way to communicate between them. Pretty ludicrous for folks that are supposed to be communicators! At one meeting we called for each laptop user to bring an Ethernet card. An Ethernet hub was supplied, and finally we achieved connectivity. We've made some progress since then using 802.11b cards, but nowhere near enough.

Here are some of the issues I would like to see touched upon by whatever group decides to advocate "Amateur Radio" use of 2.4 GHz / 802.11b/g - be it ARRL HSMM, TAPR, or "Part 15 hobbyists":
* Recommendation of a particular 802.11b/g card. In my opinion, the best is a "Lucent Silver" because it includes an antenna jack and it is very widely supported by both Windows and Linux
* Recommendation of a particular 802.11b/g access point. In my opinion, the "best" (most amenable to experimentation) is the Linksys WAP-11.
* Stocking of such cards, antenna pigtail adapters, and external antennas (including vehicular) from a traditional "Amateur Radio" supplier (encouraged by the ARRL?) TAPR?
* Research on the potential use of a non-TCP/IP networking protocol in conjunction with ad-hoc use. Specifically... would the use of Novell's IPX instead of TCP/IP result in any significant benefits? It's supported natively in Windows 95 and newer versions of Windows until (if memory serves) Windows XP.
* Research, standardization, and documentation for Amateur Radio use of the use of the (optional in the 802.11b standard) ad-hoc mode where peer-to-peer networking can be implemented without the need of an access point. Specific research should be conducted into how the ad-hoc mode of Windows XP works, and if there is potential for adapting its method of operation to be used by other operating systems.
* Research, standardization, and documentation of 802.11b "beaconing" as it can be applied to Amateur Radio operations (such as how to transmit callsign, "status / text messages" to a standardized port that a "helper" app could be set to watch for.
* Research, standardization, and documentation for Amateur Radio use of SSIDs used in 802.11, 802.11b, 802.11g
* Research, standardization, and documentation of Amateur Radio (44.x.x.x) IP addresses as applied to 802.11b, ad-hoc, portable, and mobile use; in particular standardized approaches to netmask, default gateway, and DNS (or static routing tables)
* Research, standardization, and documentation of automatic routing solutions
* Research, standardization, and documentation of Linux and Windows server solutions usable for Amateur Radio; easy to set up, easy to maintain.

Servers needed include email (POP/IMAP), newsgroups, web, DNS, DHCP
* Research, standardization, and documentation of (first) 802.11b repeater (digipeater) modes or solutions and (eventually) true 802.11b mesh networking.
* Reliable 12V switching power supply adapters for popular 802.11b equipment (such as WAP-11 mentioned above)
* Testing of off-the-shelf 802.11b equipment for thermal stability, and simple enclosures allowing 802.11b to be mounted outside (put the radio next to the antenna - don't run long coax)
* Research, standardization, and documentation of Power Over Ethernet (sending power over the two unused pairs of an 8 pair 10baseT Ethernet cable)

Some additional areas of research and experimentation:
* MeshNetworks (the company) has some very interesting mesh networking technology that they will be hard-pressed to make much headway in a market interested only in 802.11b/g/a systems. If someone in an official capacity to represent Amateur Radio... like the ARRL, approached them at a high level, they may be more receptive to an "Amateur Radio" variant of their product to gain at least some traction, in some market, than would a vendor that's currently shipping hundreds of thousands of 802.11b/g STANDARD devices.
* Proxim has all but abandoned their work with HomeRF-based systems, almost completely ceding the home market to 802.11b/g. Perhaps Proxim would be willing to license the "obsolete" HomeRF technology for Amateur Radio usage (which, truth be told, is probably MUCH better suited for Amateur Radio usage than is 802.11b.) As with MeshNetworks, Proxim would need to be approached at a high level by someone in an official capacity to represent Amateur Radio.
* US Robotics tried to differentiate themselves in the 802.11b market by supporting ad-hoc mode better than other vendors, and didn't seem to succeed. Perhaps US Robotics would be willing to work with Amateur Radio to make some use of their ad-hoc technology.
* Raylink offers low-cost FHSS equipment to Wireless ISPs, including PC cards modified with a pigtail terminated in a type N for $199. Raylink is leveraging an enormous backlog of devices originally developed by Raytheon. Again, FHSS operation may well be far more useful to Amateur Radio operation than 802.11b.
* Icom offers some very interesting 802.11b devices, primarily in Japan. Institutionally, they understand Amateur Radio well, and may be in a position to create variations of their 802.11b products for Amateur Radio (and the even bigger "Part 15 hobbyist" / "emergency preparedness") markets. One motivation for Icom to do so is that they are unlikely to achieve much penetration with their 802.11b products into the US market with its well-entrenched 802.11b companies like Proxim.
* Texas Instruments developed its PBCC technology to propose to the IEEE 802.11g committee for the 2.4 GHz "high speed" follow-on to 802.11b. Ultimately, the IEEE chose to use OFDM for 802.11g. TI is selling its PBCC chips at the moment to Buffalo and others that offer "802.11b+" devices operating at 22 Mbps. Like the above, TI may be motivated to realize at least some additional revenue and market traction for its PBCC technology if approached at a high level by someone officially representing Amateur Radio.
* It would seem like a relatively simple proposition to develop a 2.4 GHz to 1.2 GHz converter/amplifier. What would be required would be "grant" for the non-recurring professional engineering expertise to design, prototype, test, and certify the design, which could then be licensed to one or more vendors (who would not have to undergo the expense of the NRE) and could then afford to sell the device at "typical" Amateur price points. Little or no modification would be required to the 802.11b equipment. Such usage of 1.2 GHz would likely be enthusiastically received because it would in no way "compete" with Wireless ISPs and other Part 15 usage of 2.4 GHz.
* 802.11g with the use of OFDM, will (I expect) result in 802.11g in the long term performing profoundly better in a number of situations better than does 802.11b (using DSSS). Amateur Radio should pay more attention to what will be a rapid conversion of the market from 802.11b to 802.11g that will likely begin by late 2003.

Thanks,

Steve N8GNJ

--
Steve Stroh  steve@strohpub.com  425-481-0600

> -----Original Message-----
> From: bounce-ss-24593@lists.tapr.org
> [mailto:bounce-ss-24593@lists.tapr.org]On Behalf Of John Champa
> Sent: Monday, November 25, 2002 07:03

> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: ss digest: November 24, 2002
>
>
> Greetings!
>
> Horizontal polarization, as I stated in my last posting, is only
> ONE means
> we are using to separate our SS test nodes from most Part 15 users.  In
> addition, it appears to get through the trees around here better than
> vertical polarization (HI).
>
> Most importantly, Hams need to agree on SOMETHING regarding
> 802.11b if it is
> to ever be effectively and econoimically re-utilizated under Part
> 97.  This
> is really nothing more than the what Hams customerily do to agree on
> polarizations for other "new" modes, e.g. I do not recommend you
> try working
> 2M SSB DX using a vertically polarized beam...not that it can't be done
> (HI).
>
> Now, let's focus on some REAL technical issues, instead of the tiny, nic
> picking armchair debates and negative characterizations this
> webpage is so
> well known for, OK?
>
> Please re-read with care Jeff's profound comments, questions, and
> concerns
> mentioned previously.  Thank you!
>
> Vy 73,
> John Champa, K8OCL
> ARRL Chairman
> HSMM Working Group
> k8ocl@arrl.net

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 176. [ss] 802.11 Modifactaions.

From: Frosty6981@aol.com
Date: Tue, 26 Nov 2002 08:08:24 EST
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108629-2002.11.26-07.52.57--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Are there any cards out there that are easy to modify for Amateur radio, like
increase the power output?  Also are there any packages that will let you
mount the radio up on a tower next to the antenna?

73, Reid KCØIDI

## 177. [ss] Re: Inputs on Amateur Radio usage of 2.4 GHz

From: Bob Lorenzini <hwm@newportharbornet.com>
Date: Tue, 26 Nov 2002 07:15:51 -0800 (PST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108638-2002.11.26-10.00.18--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I would just like to say that I agree with all Steve says especially the
comments on part97 content restrictions. I would also like to add that
Senao makes a card that has rx sensitivity equal or better than the
Lucent silver and has 200 mw to dual external ant connectors. $98
delivered from www.netgate.com.

Bob - wd6dod

---
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## 178. [ss] RE: HSMM Experimenters Group

From: Jeff King <jeff@aerodata.net>
Date: Tue, 26 Nov 2002 12:21:11 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108643-2002.11.26-12.05.55--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Huh?!?

Short cited? Amateurs should defer to WISP's??... many of them who are in
blatant violation of Part 15 rules to begin with? Your kidding, right?

I am drawing my own conclusions here. This is how the law is written. And my
opinion is that WISP's have to be good RF citizens and that includes working
with amateur radio operators, if the need arises. I made it very clear that I
felt  WISP's bring a needed service to america... there is no doubt about
that. But they have a requirement to follow the law just (IMHO) just as
amateur radio operator's have an obligation not to bring friveroius
complaints against them.

Since you are so well connected to the part 15 WISP industry as well as a
TAPR board member, maybe you could serve as a conduit to them. We have
already had the Darwin Network's episode last February which gave WISP's a
black eye. I think there is a potential for some synergy here instead of a
adversarial relationship.

--
Jeff King, jeff@aerodata.net on 11/26/2002


On Mon, 25 Nov 2002 21:23:08 -0800, Steve Stroh wrote:
>
>Thanks for Darryl for highlighting this. I missed it when first
>posted.
>
>I had a discussion with a large Wireless ISP in the Northeast this
>morning,
>and learned that he operates two parallel 2.4 GHz systems from each
>tower.
>His FHSS systems use sectorized vertical polarization antennas, and
>the
>802.11b systems use omnidirectional horizontal polarization antennas.
>
>Many Wireless ISPs make use of both polarizations on 2.4 GHz to
>increase
>their density of coverage. Those that haven't done so to date are
>now doing
>so as the availability, quality, and cost-effectiveness of horizontal
>polarization sectorized and omni antennas has increased dramatically.
>
>And yes... Amateurs operating in their sections of 2.4 GHz are
>technically
>within their rights to request "cease and desist" to Wireless ISPs
>using
>Part 15 equipment on 2.4 GHz. I submit that such an approach is
>extremely
>short-sighted on the part of Amateur Radio as a whole, and will be a
>case of
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>building in, of all places, the US Congress and Senate for allocating
>additional license-exempt spectrum. Wireless ISPs are specifically
>mentioned
>as users of that additional spectrum. Amateur Radio Operators are not
>mentioned as users of that additional spectrum. Draw your own
>conclusions.
>
>
>Thanks,
>
>Steve N8GNJ
>
>--
>Steve Stroh   steve@strohpub.com  425-481-0600
>
>
>>-----Original Message-----
>>From: bounce-ss-24593@lists.tapr.org
>>[mailto:bounce-ss-24593@lists.tapr.org]On Behalf Of John Champa
>>Sent: Sunday, October 20, 2002 22:19
>>To: TAPR Spread Spectrum Special Interest Group

>>Cc: kilo.mike@gte.net
>>Subject: [ss] HSMM Experimenters Group
>
><snip>
>
>>The ARRL 802.11b Standard protocol we are developing, coupled with
>>the
>>exclusive use of horizontal polarization, keeps us out of the way
>>of the
>>Part 15 vertically polarized users throughout the area, and BTW,
>>gets
>>through the trees better than vertical polarization.
>
><snip>
>
>>Vy 73,
>>John - K8OCL
>>Chairman, ARRL HSMM Working Group
>
>
>
>---
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## 179. [ss] Re: Inputs on Amateur Radio usage of 2.4 GHz

From: Jeff King <jeff@aerodata.net>
Date: Tue, 26 Nov 2002 12:54:44 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108644-2002.11.26-12.39.35--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Steve:

Some points I want to address here.

On Mon, 25 Nov 2002 22:44:48 -0800, Steve Stroh wrote:

>Agreed wholeheartedly that there is way too much "you shouldn't DO
>that" commentary on this list, and many others.

Isn't this what you are doing below?

>Where I, and many others, depart from the ARRL's efforts to "take
>back 2.4 GHz"

I never knew hams had lost 2.4ghz... I knew they didn't use it much.

BTW, who are these "many others" that don't want hams to use 2.4ghz? Your the
first one I have seen speak up about this.

>using Amateur-specific implementations of 802.11b, is to
>understand what significant differentiation can be offered by doing so.

FYI... from what I have seen, the HSSM are just suggesting operating
parameters, such as WLAN channel 6, antenna polarization, SSID's and the
like. I think any firmware mods are some time away. But that is just my
opinion.

The "differentiation" they are seeking at this point is to make a good faith
effort to keep part 15 users off of the part 97 networks.

>One problem with operating under Part 97 (at least in theory... which
>consumes WAY too much bandwidth, thoughts, angst, etc.) are the
>Amateur Radio content restrictions.

Huh? How does the content change between talking on a voice FM rig or ax.25
packet setup vs. spread spectrum? Its just a different modulation mode, same

content rules apply to either one and spread spectrum is NOT held to a higher standard (for content) then any other mode.

Oh, did you mean unrestricted connections to the internet?

That is one of the many urban legends that has floated around for years. Totally false for anyone that has half a wit.  In the Detroit area, back from 86-95, myself and two other hams ran three internet NOS gateways...completely unrestricted... smtp, ftp, http, gopher, whatever the user's wanted. We trusted our users (they were all control ops) and it was our licenses and we where not worried about it. FCC monitoring station just a few miles away and we even showed it to them. They where quite impressed.

Today, the rules are even more relaxed and I see no reason anyone should not run a personal station on the air that is connected to the internet, assuming they take some precautions (firewalls and effort to keep unlicensed users off the link). Do personal business on the air, get e-mail, surf the web, experiment with Microwave's. I think most hams know enough not to run their business's under Part 97 or surf kiddie porn sites on part 97.

>The bottom line to me in the "use 802.11b under Part 97" versus "use
>802.11b
>under Part 15" is that absent significant differentiation of Part 97
>operations, it's far simpler and easier to operate under Part 15
>rules. No issues with Internet interconnection, content, encryption, etc.

I agree there is not a significant technical advantage the way the part 97 rules are crippled for spread spectrum now, but I understand there has been a rethinking of this by those past detractors. Plus, who am I (or you) to deny an amateur the chance to run his spread spectrum gear under part 97? I partipated for over a year in the TAPR STA running my spread spectrum equipment under part 97... it would have been far easier for me to run this under part 15. But I chose part 97. And as a direct result of this, we got the rules loosened up somewhat.

The point being, if you don't have a significant reason to run under part 15, one SHOULD run under part 97 and please report it to this list, the ARRL HSMM or your local ARRL official. I've poo poo'ed the ARRL's efforts here in the past, but now the winds appear to be a changing. I support the ARRL's HSMM efforts 110%.

>Here are some of the issues I would like to see touched upon by
>whatever
>group decides to advocate "Amateur Radio" use of 2.4 GHz / 802.11b/g
>- be it
>ARRL HSMM, TAPR,

<clip>

Very good points. Has TAPR signed on to any of this? You'll get my full support. But I do want to stress I think just "doing it" should be Job #1.

BTW, I'm doing a higher performance POE for the WET11 and a amplified antenna as well.

73

Jeff

---
You are currently subscribed to ss as: lyris.ss@tapr.org
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## 180. [ss] RE: HSMM Experimenters Group

From: "Steve Stroh" <lists@strohpub.com>
Date: Tue, 26 Nov 2002 10:34:14 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108645-2002.11.26-13.20.14--lyris.ss#tapr.org@lists.tapr.org>

Rendered body type: text/plain

Jeff:

"Amateurs should defer to WISPs" are YOUR words, not mine.

Some WISPs are in blatant violation of Part 15 rules as currently written. A number of non-compliant WISPs have been cited by the FCC Enforcement Bureau (for issues unrelated to Amateur Radio.) As I indicated... the rules under which WISPs operate could easily change in the coming year now that there is very high-level interest in license-exempt wireless by influential Congresspersons and Senators.

There may well be some potential for synergy between WISPs and hams. Indeed, there are many WISPs that are also hams, and they often see the two roles as highly complimentary. But for those WISPs that aren't, Amateur Radio "saber-rattling" talk, like "Well, I could just fire up a 2.4 GHz ATV transmitter to shut down that WISP", by a vocal minority of Amateur Radio Operators isn't conducive to that goal.

What the vast majority of Amateur Radio Operators are missing in this discussion is a realistic understanding of the fundamental realities of their position within 2.4 GHz... at a time when license-exempt wireless is practically the only area of investment, innovation, and growth within the entire telecommunications industry.

Now might not be the best time for Amateur Radio operators to be asserting themselves on the 2.4 GHz band.

Also... the Darwin Networks episode hardly "gave WISPs a black eye". No more so than an individual Amateur Radio Operator being cited for deliberate interference or other rules violations "gives Amateur Radio as a whole a black eye." Darwin Networks was particularly clueless and the result was predictable.

Thanks,

Steve

--
Steve Stroh  steve@strohpub.com  425-481-0600
Editor - Focus on Broadband Wireless Internet Access newsletter
http://www.strohpub.com/focus

> -----Original Message-----
> From: bounce-ss-24593@lists.tapr.org
> [mailto:bounce-ss-24593@lists.tapr.org]On Behalf Of Jeff King
> Sent: Tuesday, November 26, 2002 09:21
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] RE: HSMM Experimenters Group
>
>
> Huh?!?
>
> Short cited? Amateurs should defer to WISP's??... many of them who are in
> blatant violation of Part 15 rules to begin with? Your kidding, right?
>
> I am drawing my own conclusions here. This is how the law is
> written. And my
> opinion is that WISP's have to be good RF citizens and that
> includes working
> with amateur radio operators, if the need arises. I made it very
> clear that I
> felt  WISP's bring a needed service to america... there is no doubt about
> that. But they have a requirement to follow the law just (IMHO) just as
> amateur radio operator's have an obligation not to bring friveroius
> complaints against them.
>
> Since you are so well connected to the part 15 WISP industry as well as a
> TAPR board member, maybe you could serve as a conduit to them. We have
> already had the Darwin Network's episode last February which gave
> WISP's a
> black eye. I think there is a potential for some synergy here
> instead of a
> adversarial relationship.
>
> --
> Jeff King, jeff@aerodata.net on 11/26/2002

---
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## 181. [ss] Re: 802.11 Modifactaions.

From: "Pinfold" <pinfold@xtra.co.nz>
Date: Wed, 27 Nov 2002 07:38:08 +1300
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108646-2002.11.26-13.24.41--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Reid  Just to push my own barrow I sell Acess points that are configurable  as bridges  often mount them in a box next to the antenna, cheers Mike ZL1BTB http://www.amalgamate2000.com/sales/products.htm
  ----- Original Message -----
  From: Frosty6981@aol.com
  To: TAPR Spread Spectrum Special Interest Group
  Sent: Wednesday, November 27, 2002 2:08 AM
  Subject: [ss] 802.11 Modifactaions.


  Are there any cards out there that are easy to modify for Amateur radio, like increase the power output?  Also are there any packages that will let you mount the radio up on a tower next to the antenna?

  73, Reid KCØIDI

## 182. [ss] Re: Inputs on Amateur Radio usage of 2.4 GHz

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Tue, 26 Nov 2002 13:40:30 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108655-2002.11.26-14.24.57--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

This always struck me as odd.  The ARRL has been trying to obtain more primary amateur allocations in the 2.3-2.4 GHz area.  I'm always for this kind of thing, but I guess since I can't think of alot any present ham activity on the band in my area, so it seems weird.

My general rule of thumb thought on our microwave allocations is; lets start using them.  Most of them are shared and under-used by ourselves so they/we stand the greatest chance of losing them, which would be a major loss.

In the US amateurs have access to appoximately:
3.75 MHz of HF (160m-10m) spectrum
67 MHz of VHF/UHF (6m-33cm) spectrum
24.095 GHz of microwave (23cm-300GHz) spectrum

"Content restrictions" apply to all FCC regulated radio.  Technically the same stuff applies to Part 15.  Technically dropping the F-bomb over a cell-phone is illegal.  Which is more regulated and more enforced might be a valid concern.

I'm still waiting for someone to quote these so called "content restrictions" from Part 97.  All I found is Sec 97.101a "each amateur station must be operated in accordance with good amateur practice."

I said this before:
Unless your a business, or porno freak there shouldn't be any real problems assuming your a ham and you have an amateur interest in this Part 97 wireless concept.  The (keep it) Part 15 look at this makes me think a person is either;
1)not a ham (or not interested)
2)are a ham but would like to capitalize on this
3)an extremely paranoid old school of thought ham.

If all someone wants to do is distribute internet and not attempt to build a separate ham VPN (AMPRNet) network, yes keep it Part 15.  If you want to experiment with other hams by trying to form a network or link using this technology, that's ham radio and should be Part 97.

I guess what I see here is.. yes now there are many vehicles to communicate. Cellphones, the internet, paging services.. other licensed radio services; GMRS, Business radio's, unlicensed; FRS, MURS, Part 15 WLAN.  What your interest in ham radio is (if any) determines its possible replacements. Many of the things we do (public service) as hams can be done through other

means.  As you point out our discussions/communications can also be done
through other means.

Our basis and purpose:
Providing Emergency communications
To advance the radio art
Encouraging experimentation, advancing communication & technical skills
Training/expanding the reservoir of operators/technicians and electronics
Extending goodwill


---
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## 183. [ss] SSID/ Ham ID

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Tue, 26 Nov 2002 14:07:55 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108657-2002.11.26-14.52.23--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

There was some discussion before about this.

I suggested/suggest:

Set the devices SSID to whatever you want, maybe something with your
callsign in it
But hide the SSID/network name (this is an option) for some security..

Change your MAC to your callsign in Hex.  Multiple reasons.  Chances are other
hams sniffing may notice the unique MAC, it also is another way to fullfill the
FCC identification requirement.  It also helps map your MAC address
registration / Radius authentication (further security) table back to a
particular ham user.  Any security breach attemps will be easier to notice, as
they will more than likely have standard MAC's.

MAC addresses may be burned into the hardware but when was the last time
you tired to change one on your windows box let alone a unix box, its as
easy as 1 2 3.
1. ifconfig eth0 down
2. ifconfig eth0 hw ether 4b:42:39:4d:57:52
3. ifconfig eth0 up

The MAC/callsign deal has a catch.  Converting a 6 char. callsign translates
to the max Hex octets for a MAC.  5 char and less calls can append zero's

Using the upper case and lower case conversions of the standard ASCII chart
can yeild 2 possible MAC's for 6 char. callsigns.  If you opperate more than
2 devices you may need to do something weird like leave your callsign numeral
alone (don't convert it to hex), that way you have another digit to play with.
If you understand what I'm getting at.


---
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## 184. [ss] Re: Inputs on Amateur Radio usage of 2.4 GHz

From: "Hare,Ed, W1RFI" <w1rfi@arrl.org>
Date: Tue, 26 Nov 2002 15:46:54 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108675-2002.11.26-15.31.28--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> "Content restrictions" apply to all FCC regulated radio.  Technically
> the same stuff applies to Part 15.  Technically dropping the
> F-bomb over
> a cell-phone is illegal.  Which is more regulated and more enforced
> might be a valid concern.
>
> I'm still waiting for someone to quote these so called "content
> restrictions" from Part 97.  All I found is Sec 97.101a "each amateur
> station must be operated in accordance with good amateur practice."

97.113(a)(4) prohibits the transmission of "obscene or indecent words or language."

There are a number of other aspects of Part 97 that may make Part 15 networking look a bit more
appealing in some ways than wireless done under Part 97.  There are no arguments about whether it is

legal to use Part 15 to order a pizza -- or to conduct out and out commerce, for that matter.  I don't believe there are any Part 1 or Part 2 obscentity/indecency issues, so they are covered Part by Part; Part 15 doesn't contain any such prohibitions. If I network under Part 15, I can tell my non-ham neighbor to join me -- not allowed under Part 97. There are also restrictions in Part 97 on unattended digital operation.

It is pretty evident that Part 97 rules may be hindering Amateur Radio's ability to make contributions to the state of the art.  Of course, rules can be changed. Speaking entirely personally, I think it would be unlikely, IMHO, that ARRL would initiate any such requests for rulemaking in this area, though. :-)  Just MHO.

73,
Ed Hare, W1RFI
Internet: w1rfi@arrl.net

> -----Original Message-----
> From: Steve Lampereur [mailto:kb9mwr@yahoo.com]
> Sent: Tuesday, November 26, 2002 2:41 PM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: Inputs on Amateur Radio usage of 2.4 GHz
>
>
> This always struck me as odd.  The ARRL has been trying to
> obtain more
> primary amateur allocations in the 2.3-2.4 GHz area.  I'm always for
> this kind of thing, but I guess since I can't think of alot
> any present
> ham activity on the band in my area, so it seems weird.
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> My general rule of thumb thought on our microwave allocations is;
> lets start using them.  Most of them are shared and under-used by
> ourselves so they/we stand the greatest chance of losing them, which
> would be a major loss.
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> Part 97 wireless concept.  The (keep it) Part 15 look at this makes me
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> To advance the radio art
> Encouraging experimentation, advancing communication &
> technical skills
> Training/expanding the reservoir of operators/technicians and
> electronics
> Extending goodwill
>
>
> ---
> You are currently subscribed to ss as: W1RFI@ARRL.ORG
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>
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
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## 185. [ss] Re: Inputs on Amateur Radio usage of 2.4 GHz

From: "Steve Stroh" <lists@strohpub.com>
Date: Tue, 26 Nov 2002 12:58:03 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108677-2002.11.26-15.44.13--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

To a large extent, I agree with you that the content issue is specious.

But it's not just me... or you... or the small group of those of us that are enlightened about this issue. The problem is with the much larger pool of naysayers who constantly yipe and yap about non-Amateur traffic, third party content, ad nauseum. When they discover that it's even POSSIBLE to "abuse" Amateur Radio in this way, they want such activity halted, "protections" put in place, or they shout it down (like at club meetings), call attention to it in the press, write the FCC, etc. Amateur Radio is its own worst enemy at times.

All that hue and cry is absolutely astonishing and a total turnoff to the young techie who might be interested in Amateur Radio, but only if she can use it to IM her pals, swap some new MP3s (perhaps even legal :-), surf the web, send and get some email, etc.

It is flat out ASTONISHING to me that MANY years after the FCC WROTE THIS SPECIFIC EXAMPLE INTO ITS FREQUENTLY ASKED QUESTIONS... that some Hams still say that you cannot order a pizza using an autopatch. You can, as long as you don't own the pizza business. But, that example happens all the time; I personally corrected someone not too long ago that actually cited "no ordering pizza via autopatch".

"Going Part 15" largely avoids the Amateur Radio naysayers, nimrods, nitwits, the "no pizza ordering via autopatch" crowd, etc.

My personal operating philosophy is that my use of Amateur Radio has evolved to be personal experimentation to extend the breadth and scope of the Internet via wireless... and I'm doing so on Amateur Radio frequencies because my Amateur Radio license gives me "license" to DO such experimentation. As long as my usage of the Internet via Amateur Radio frequencies is largely personal, content, decency, commercial use etc. is simply a non-issue.


Thanks,

Steve N8GNJ

--
Steve Stroh   steve@strohpub.com  425-481-0600


> -----Original Message-----
> From: bounce-ss-24593@lists.tapr.org
> [mailto:bounce-ss-24593@lists.tapr.org]On Behalf Of Steve Lampereur
> Sent: Tuesday, November 26, 2002 11:41
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: Inputs on Amateur Radio usage of 2.4 GHz
>
>

> This always struck me as odd.  The ARRL has been trying to obtain more
> primary amateur allocations in the 2.3-2.4 GHz area.  I'm always for
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> restrictions" from Part 97.  All I found is Sec 97.101a "each amateur
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> Part 97 wireless concept.  The (keep it) Part 15 look at this makes me
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> Cellphones, the internet, paging services.. other licensed radio services;
> GMRS, Business radio's, unlicensed; FRS, MURS, Part 15 WLAN.  What your
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>
> Our basis and purpose:
> Providing Emergency communications
> To advance the radio art
> Encouraging experimentation, advancing communication & technical skills
> Training/expanding the reservoir of operators/technicians and electronics
> Extending goodwill

---
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## 186. [ss] RE: HSMM Experimenters Group

From: "Hare,Ed, W1RFI" <w1rfi@arrl.org>
Date: Tue, 26 Nov 2002 16:19:14 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108679-2002.11.26-16.03.43--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> And yes... Amateurs operating in their sections of 2.4 GHz
> are technically
> within their rights to request "cease and desist" to Wireless
> ISPs using
> Part 15 equipment on 2.4 GHz. I submit that such an approach
> is extremely
> short-sighted on the part of Amateur Radio as a whole, and
> will be a case of
> "win the battle, lose the war". Note that there is

> significant momentum
> building in, of all places, the US Congress and Senate for allocating
> additional license-exempt spectrum. Wireless ISPs are
> specifically mentioned
> as users of that additional spectrum. Amateur Radio Operators are not
> mentioned as users of that additional spectrum. Draw your own
> conclusions.

The conclusions I might draw is that the wireless stuff is becoming important enough that it may be given spectrum of its own. Would that be in the Industrial, Scientific and Medical bands (ISM), where ISM devices operating under Part 18 can radiate unlimited energy in that spectrum, with no protection offered to other users of that spectrum? IMHO, more than likely not, and if the Part 15 manufacturers were to seek their own spectrum, I would imagine that it would be better outside the ISM bands. Right now, there is a fair amount of 2.4 GHz ISM stuff running -- and it has to run somewhere -- and if the business model calls for unfettered spectrum, it isn't going to be found in the ISM bands. Maybe on the bands above 2.4 GHz, because to my knowledge, the ISM use there isn't so bad.

Now, as to the "rights" of amateurs, do keep in mind that our rights begin only where there is actual harmful interference to amateur communications. Merely hearing a Part 15 signal in "our" bands is not harmful interference. There are many bands where Amateur Radio operates secondary wrt other services. How would we feel if the military heard us on 70 cm and said "we hear hams in our band, so they gotta' get out." Under the Part 15 rules, we are protected against harmful interference, but we also need to be sure that a particular case meets the definition of harmful interference before crying foul. Harmful interference is any disruption of certain emergency communications or the repeated disruption of other communications.

Just MHO and personal O.

73,
Ed Hare, W1RFI
ARRL Lab
225 Main St
Newington, CT 06111
Tel: 860-594-0318
Internet: w1rfi@arrl.org
Web: http://www.arrl.org/tis

> -----Original Message-----
> From: Steve Stroh [mailto:lists@strohpub.com]
> Sent: Tuesday, November 26, 2002 12:23 AM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] RE: HSMM Experimenters Group
>
>
>
> Thanks for Darryl for highlighting this. I missed it when
> first posted.
>
> I had a discussion with a large Wireless ISP in the Northeast
> this morning,
> and learned that he operates two parallel 2.4 GHz systems
> from each tower.
> His FHSS systems use sectorized vertical polarization
> antennas, and the
> 802.11b systems use omnidirectional horizontal polarization antennas.
>
> Many Wireless ISPs make use of both polarizations on 2.4 GHz
> to increase
> their density of coverage. Those that haven't done so to date
> are now doing
> so as the availability, quality, and cost-effectiveness of horizontal
> polarization sectorized and omni antennas has increased dramatically.
>
> And yes... Amateurs operating in their sections of 2.4 GHz
> are technically
> within their rights to request "cease and desist" to Wireless
> ISPs using
> Part 15 equipment on 2.4 GHz. I submit that such an approach
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> additional license-exempt spectrum. Wireless ISPs are
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> mentioned as users of that additional spectrum. Draw your own
> conclusions.
>
>
> Thanks,
>
> Steve N8GNJ
>
> --
> Steve Stroh   steve@strohpub.com  425-481-0600
>
>
> > -----Original Message-----
> > From: bounce-ss-24593@lists.tapr.org
> > [mailto:bounce-ss-24593@lists.tapr.org]On Behalf Of John Champa
> > Sent: Sunday, October 20, 2002 22:19
> > To: TAPR Spread Spectrum Special Interest Group
> > Cc: kilo.mike@gte.net
> > Subject: [ss] HSMM Experimenters Group
>
> <snip>
>
> > The ARRL 802.11b Standard protocol we are developing,
> coupled with the
> > exclusive use of horizontal polarization, keeps us out of
> the way of the
> > Part 15 vertically polarized users throughout the area, and
> BTW, gets
> > through the trees better than vertical polarization.
>
> <snip>
>
> > Vy 73,
> > John - K8OCL
> > Chairman, ARRL HSMM Working Group
>
>
>
> ---
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---
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## 187. [ss] RE: Inputs on Amateur Radio usage of 2.4 GHz

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Wed, 27 Nov 2002 08:31:48 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108681-2002.11.26-16.16.19--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

A few thoughts here... :)

> Here are some of the issues I would like to see touched upon
> by whatever
> group decides to advocate "Amateur Radio" use of 2.4 GHz /
> 802.11b/g - be it
> ARRL HSMM, TAPR, or "Part 15 hobbyists":
> * Recommendation of a particular 802.11b/g card. In my
> opinion, the best is
> a "Lucent Silver" because it includes an antenna jack and it
> is very widely
> supported by both Windows and Linux

I'd prefer to see a range of cards recommended.  Here's another good excuse
to recuit new hams from the wireless networking people.  Guess who knows the
hardware! :)  In any case, over here, a predecessor of the Lucent cards has
been the card of choice, because a large number (in the thousands) became
available due to a "fire sale" some time back.  I scored a few myself.

> * Recommendation of a particular 802.11b/g access point. In
> my opinion, the
> "best" (most amenable to experimentation) is the Linksys WAP-11.

Again, comments as above.  D-Link seems to be emerging as more

affordable/accessible here, and the hardware platform of the latest AP _may_
even support Linux (subject to confirmation).  I seem to see a lot more
reference to Linksys in the US than over here.

> * Stocking of such cards, antenna pigtail adapters, and
> external antennas
> (including vehicular) from a traditional "Amateur Radio" supplier
> (encouraged by the ARRL?) TAPR?

Good idea.

> * Research on the potential use of a non-TCP/IP networking protocol in
> conjunction with ad-hoc use. Specifically... would the use of
> Novell's IPX
> instead of TCP/IP result in any significant benefits? It's supported
> natively in Windows 95 and newer versions of Windows until (if memory
> serves) Windows XP.

Why?  TCP/IP is the standard networking protocol.  IPX/SPX is not as well
supported by some systems (I know Windows and Linux support IPX/SPX, but do
any of the BSD OSs support it?).  If we're going to change protocols, might
as well go for something more forward looking, like IPv6, which I would
rather prefer than IPX/SPX.

> * Research, standardization, and documentation for Amateur
> Radio use of the
> use of the (optional in the 802.11b standard) ad-hoc mode
> where peer-to-peer
> networking can be implemented without the need of an access
> point. Specific
> research should be conducted into how the ad-hoc mode of
> Windows XP works,
> and if there is potential for adapting its method of
> operation to be used by
> other operating systems.

Could be useful,especially if the XP stuff can be ported to other OSs.

> * Research, standardization, and documentation of automatic routing
> solutions

Another way to get wireless networking people interested in getting their
ham ticket... :)

> * Proxim has all but abandoned their work with HomeRF-based
> systems, almost
> completely ceding the home market to 802.11b/g. Perhaps
> Proxim would be
> willing to license the "obsolete" HomeRF technology for
> Amateur Radio usage
> (which, truth be told, is probably MUCH better suited for
> Amateur Radio
> usage than is 802.11b.) As with MeshNetworks, Proxim would need to be
> approached at a high level by someone in an official capacity
> to represent
> Amateur Radio.

The problem I have with these ideas is the use of low volume "proprietry"
solutions.  This equates to cost, and factor in the almost 2:1 currency
difference between the US and Australia, the resulting figures don't look
too good...  Sure, play with them, but don't lock us in unless there can be
reasonable cost and scope for experimentation.

The FHSS vs DSSS argument is interesting, because of the technical scope,
but for us here, cost is going to be an issue.  $199 mightn't sound like
much, but try almost $400 by the time it hits our shores...

Anyway, just a few thoughts...

---
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Version: 6.0.422 / Virus Database: 237 - Release Date: 20/11/2002

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## 188. [ss] RE: SSID/ Ham ID

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Wed, 27 Nov 2002 08:52:02 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108683-2002.11.26-16.36.32--lyris.ss#tapr.org@lists.tapr.org>
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> Using the upper case and lower case conversions of the
> standard ASCII chart
> can yeild 2 possible MAC's for 6 char. callsigns.  If you

Not necessarily,I could do something funky like

vK3JeD
Vk3jEd

:-)

---
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Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.422 / Virus Database: 237 - Release Date: 20/11/2002

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## 189. [ss] RE: HSMM Experimenters Group

From: Jeff King <jeff@aerodata.net>
Date: Tue, 26 Nov 2002 17:05:45 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108686-2002.11.26-16.50.55--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Tue, 26 Nov 2002 10:34:14 -0800, Steve Stroh wrote:
>
>Jeff:
>
>"Amateurs should defer to WISPs" are YOUR words, not mine.

Your right. I succiently paraphrased what I thought you where saying, which
was:

SS>Where I, and many others, depart from the ARRL's efforts to "take back 2.4
SS>GHz" using Amateur-specific implementations of 802.11b, is to understand
SS>what significant differentiation can be offered by doing so.

and..

SS>And yes... Amateurs operating in their sections of 2.4 GHz are technically
SS>within their rights to request "cease and desist" to Wireless ISPs using
SS>Part 15 equipment on 2.4 GHz. I submit that such an approach is extremely
SS>short-sighted on the part of Amateur Radio as a whole, and will be a case
of
SS>"win the battle, lose the war"

So, I'm sorry I mis-represented your position in any way.

What war are amateur's fighting with WISP's?

>Some WISPs are in blatant violation of Part 15 rules as currently
>written.

And if these same WISP's are causing interference to a legitimate amateur operation, what is your suggestion? Go to congress to get the hams kicked off 2.4ghz?

> As I indicated... the rules under
>which WISPs operate could easily change in the coming year now that
>there is
>very high-level interest in license-exempt wireless by influential
>Congresspersons and Senators.

I'm talking about the rules now. Part 15 WISP's have to get along with hams... if they cause a legitimate problem of interference. Very rarely happens but if it does, it should be properly addressed.

>There may well be some potential for synergy between WISPs and hams.
>Indeed,
>there are many WISPs that are also hams, and they often see the two
>roles as
>highly complimentary. But for those WISPs that aren't, Amateur Radio
>"saber-rattling" talk, like "Well, I could just fire up a 2.4 GHz ATV
>transmitter to shut down that WISP", by a vocal minority of Amateur
>Radio Operators isn't conducive to that goal.

And those are your words Steve. FYI, this thread is about the HSMM which is doing spread spectrum tests in amateur radio. My specific comment was about RF ignorant WISP's (of which a significant portion are) who could be causing interference to legitimate amateur operations. I NEVER suggested or endorsed any kind of "Straw man" faked interference from amateur radio stations. 90% of WISP's would never cause a problem. But they have a secondary position on 2.4ghz as compared to hams. In area's that really need WISP's, rural area's, I think WISP's and hams can get along just fine... there just aren't enough hams that need 2.4ghz.

>What the vast majority of Amateur Radio Operators are missing in this
>discussion is a realistic understanding of the fundamental realities
>of
>their position within 2.4 GHz... at a time when license-exempt
>wireless is
>practically the only area of investment, innovation, and growth
>within the entire telecommunications industry.

Who are the "vast majority of amateur radio operators" you are speaking to? I'm on 3 different WISP lists and 5 more part 15 WLAN hacker lists. I'm well aware of the realities here.

The fundamental reality is amateur radio (and yes TAPR and the ARRL) totally dropped the ball in exploiting 2.4ghz or any spread spectrum. But, that appears to be changing and I *will* be supportive of this effort. This is something that should have happened years ago. You, as a TAPR board member should be aware of this.... I am a firm believer that you have to walk before you can run. If some hams want to use part 97 for spread spectrum, I think TAPR and the amateur community should be behind them instead of this nitpicking BS/NIH on this SIG I have been seeing. Also, I think with some minor modifications to Part 97, spread spectrum use on amateur radio can be made very attractive to the Part 15 hackers (who can come over to part 97).

>Now might not be the best time for Amateur Radio operators to be
>asserting themselves on the 2.4 GHz band.

I see.... we should fold then?

>Also... the Darwin Networks episode hardly "gave WISPs a black eye".

Yeah... right Steve. I followed that quite closely.... made the WISP industry look like a bunch of unorganized idiots.... and I am pro-WISP. Trying to claim he had an "exception" because he was running under part 18?!? His only chance would have been to demonstrate he wasn't causing those ham's interference and/or workit out with them. He chose neither route. The first thing we have to do is not lie to ourselves here.

>Darwin Networks was particularly clueless and the result
>was predictable.

Yes, it gave the WISP industry a black eye. It was written up twice in the ARRL letter.

http://www.arrl.org/news/stories/2001/02/15/2/

-Jeff

---
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## 190. [ss] Steve vs Jeff - not

From: "Steve Stroh" <lists@strohpub.com>
Date: Tue, 26 Nov 2002 17:32:11 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108700-2002.11.26-20.18.11--lyris.ss#tapr.org@lists.tapr.org>
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Jeff:

It's obvious that despite some similarities, including involvement with the Wireless ISP industry, we're coming at these issues from very different perspectives. I'm not claiming that my viewpoint is more valid than yours - just different, for what it's worth, your mileage may vary.

>From long experience I'd rather not, and undoubtedly the other subscribers would rather I not, engage you in a point-by-point, tit-for-tat discussion on the  issues at hand. Content that I've made my points, I'll let yours be the last words in our particular discussion.

Thanks,

Steve N8GNJ

--
Steve Stroh   steve@strohpub.com  425-481-0600

---
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## 191. [ss] Re: Steve vs Jeff - not

From: Jeff King <jeff@aerodata.net>
Date: Tue, 26 Nov 2002 20:55:14 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108703-2002.11.26-20.48.35--lyris.ss#tapr.org@lists.tapr.org>
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Steve:

I'm sorry to see you chose to make this personal (re: your title).

I don't think our viewpoints are that different in a pragmatic sense, I'm just not ready yet to give up on amateur radio, in particular when I see real progress being made on a particular front. But you very well may have the last word here ultimately.... I just hope it is not so.

73

Jeff

--
Jeff King, jeff@aerodata.net on 11/26/2002


On Tue, 26 Nov 2002 17:32:11 -0800, Steve Stroh wrote:
>
>Jeff:
>
>It's obvious that despite some similarities, including involvement
>with the
>Wireless ISP industry, we're coming at these issues from very
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>just different, for what it's worth, your mileage may vary.
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>>From long experience I'd rather not, and undoubtedly the other
>>subscribers
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>on the  issues at hand. Content that I've made my points, I'll let
>yours be
>the last words in our particular discussion.
>
>
>Thanks,
>
>Steve N8GNJ
>
>--
>Steve Stroh   steve@strohpub.com  425-481-0600
>
>
>
>
>---
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## 192. [ss] RE: HSMM Experimenters Group

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Wed, 27 Nov 2002 17:05:18 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108720-2002.11.27-00.56.48--lyris.ss#tapr.org@lists.tapr.org>
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G'Day All...

Steve Stroh is not the only TAPR board member on this list. I am also a
TAPR board member, although the only time I need to worry about the FCC
is when I come to the USA for a holiday or for work.

Let me make one thing clear. I am in favour of Part 95 and Part 15 uses
of 802.11. IN FAVOUR.

>If some hams want to use part 97 for spread=  spectrum, I
>think TAPR and the amateur community should be behind them
>instead of this nitpicking BS/NIH on this SIG I have been seeing.

Just because I support the use of 802.11 by hams and non-hams in the
same band does not mean that I aggree with the 'ARRL 802.11 Standard'. I
believe that Hams have a lot to offer to the Community Wireless  and
WISP groups, and they have a lot to offer Ham Radio. I keep saying this
and people are listening. Other people are saying this too.

BUT, I believe that the HSMM is misguided in what they are attempting to
do in terms of standardisation. Rear Admiral Grace Hooper once said that
the great thing about standards is that there are so many to choose
from. This is the problem. Once you get more standards you reduce the
availability of your equipment.

The reason why the TAPR SS Radio failed was because parts became
un-available. The reason that the 'ARRL 802.11 Standard' will untimately
fail is that the parts will not be available to everyone who wants to
use them.

Change the PN code in the radio? I will not be able to use this radio.
If the ARRL sells the radio to me as an ARRL member they will be in BIG
trouble. Changing the MAC address... I can see the potential for a DMCA
style court case over that one. Especially now that the Homeland
Security bill has been signed. The modification to the MAC address could
be shown to be a method of obscuring the real hardware address of the
station. Be careful...

As and adjunct I did a search of frequency allocations in the ISM band
here in Oz state wide. I found that there is exactly one station that is
running 150w PEP on 802.11b Channel 1. It is a Ham Radio repeater
licensed for ATV. I can see which would win if there was ever a fight.
There is luck that the repeater is in the middle of nowhere so WISP's
will not have to worry about it.

---------
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

---
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## 193. [ss] Make Ham 802.11 Illegal...

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Wed, 27 Nov 2002 19:24:02 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108725-2002.11.27-03.15.23--lyris.ss#tapr.org@lists.tapr.org>
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People...

About a week ago I was at a talk by Australia's (and maybe the worlds)
greatest living Ham - VK2DIK - Dick Smith - who was the first person to
fly to the north pole, and round the world, in a helicopter.

He suggested that the best way to make Ham Radio appealing was to make
it illegal. When CB was illegal in Australia Dick sold a huge number of
CB radios to teenage males. When he got it legalised, the number of
sales dropped to almost nothing.

So in Ham Radio what we need to do is make Spread Spectrum on ham bands
illegal... That should encourage people to start playing with 802.11 Ham
illegally... But it would be hams playing with ham technical standards.

Darryl

P.S. Who says that Ham Radio needs to be done on Ham Bands anyway... I
do a lot of APRS on commercial bands... But it is still Ham Radio :-)

---------
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

---
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## 194. [ss] Re: Part 15 a very bad idea <LYR27907-107097-2002.11.15-11.19.05--rwmcgwier#comcast.net@lists.tapr.org>

From: Robert McGwier <rwmcgwier@comcast.net>
Date: Wed, 27 Nov 2002 06:17:42 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108732-2002.11.27-06.02.12--lyris.ss#tapr.org@lists.tapr.org>

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The FCC shut down the the 72 mile experiment with an enforcement
action.

Bob N4HY

---
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## 195. [ss] RE:ARRL HSMM Working Group....

From: Ron Schroeder <rjs@bnl.gov>
Date: Wed, 27 Nov 2002 07:47:04 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108735-2002.11.27-07.35.04--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Darryl,

This is only true in free space.  In buildings and often outside of
buildings the polarization disruption eleminates most if not all of that
seperation.  Once the signal gets difracted by objects, all bets are off.
When I try to get maximum range in buildings, I rotate the polarization of
the remote antenna for maximum signal and it is hardly ever at it's peak
with both antennas at the same polarization.

Ron Schroeder WD8CDH
Brookhaven National Lab
Building 911A
Upton NY 11973
631 344-4561

<snip>
> >>Part 15 users are, for all practical purposes, all vertically
> >
> > polarized.
> >
> >>That provides a theoretical 20-25 dB separation between us and them.
<snip>
> >
> > Once the ISP's realise that they can double the number of access points
> > with horizontal polarisation, I think that the ability for hams to use
> > Horizontal as a way to stay away from commercial interests is going to
> > be basically farcical.
> >
> > Darryl VK2TDS

---
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## 196. [ss] RE:ARRL HSMM Working Group....

From: "Mike McCarthy, W1NR" <w1nr@eecorp.com>
Date: Wed, 27 Nov 2002 08:20:48 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108737-2002.11.27-08.05.15--lyris.ss#tapr.org@lists.tapr.org>
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Agere radios use horizontal polarization.  Intersil based designs
use vertically polarized antenna.  Directional antenna used in
Point-to-Point are mostly horizontal.  Ron is also basically
correct in that inside a building, with all of the reflection
and multi-path, polarization becomes moot.

If one wanted to really separate the HAM community from
part 15, then just use different spread sequences.  I saw
a demonstration during the early days of the 802.11
committee meetings on how to stack up to 60 different
users on a single channel using a method of different spread
sequences.  Of course, the IEEE in their infinite wisdom
chose not to adopt it.

Mike, W1NR

-----Original Message-----
From: bounce-ss-28630@lists.tapr.org
[mailto:bounce-ss-28630@lists.tapr.org]On Behalf Of Ron Schroeder
Sent: Wednesday, November 27, 2002 7:47 AM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] RE:ARRL HSMM Working Group....


Hi Darryl,

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buildings the polarization disruption eleminates most if not all of that
seperation.  Once the signal gets difracted by objects, all bets are
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Ron Schroeder WD8CDH
Brookhaven National Lab
Building 911A
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631 344-4561


<snip>
> >>Part 15 users are, for all practical purposes, all vertically
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> > polarized.
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> > Darryl VK2TDS

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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org




---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 197. [ss] RE: HSMM Experimenters Group

From: Jeff King <jeff@aerodata.net>
Date: Wed, 27 Nov 2002 14:19:09 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108769-2002.11.27-14.03.50--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Darryl:

I think you mean you are in favour of Part *97* and Part 15 use of 802.11b.
Part 95 here in the U.S. is the 27mhz AM citizen band, FRS, GMRS and the new
MURS service. Only ~20khz of bandwidth and the only one of the 4 that allows
data is MURS.

Having some of the "HSMM" stations in my neck of the woods, I can state that
everything I have seen/heard about is just standard 802.11b stuff. No special
protocols. Cisco's, Orinco's and Linksys cards make up the stable of RF gear.
Some 1-3 watt amps and a assortment of omni and gain antennas. No rocket
science here, just some hams dinking with 802.11b gear trying to see what
they can do with it.

I think the real intent here is just to foster some experimentation on
amateur radio spread spectrum. I wouldn't read more then that into it at this

point.

The only real  "standards" I have seen is the desire to standardize 802.11b
channel 6 as the ham channel and suggest horizontal polarization. The
"changing the protocol' is just talk, the former is action. Not to say it
won't happen, but IMHO, the ARRL HSMM fully understands the concept of you
have to walk before you can run.

Understand, channel one of the 802.11b protocol is the weak signal part of
2.4ghz. Above channel 6 is not in then ham band. I'm referring to the U.S.
allocations. Having fellow hams running 802.11b on the weak signal part of
2.4ghz would not be a good idea. Hence, I am in support of some standards
here if we ever expect to become part of mainstream amateur radio.

A additional benefit of channel 6, if we get a buy in, is next time we go
back to the table, it will be that much easier to get spread spectrum as a
primary user of the ham band on pare with other part 97 users, at least in
that part of the band. Understand, in the U.S., Part 97 spread spectrum users
are secondary to any other amateur radio operator. We are limited to 1 watt
power output (unless we implement APC) and have to defer to any other amateur
radio operator (including ATV as well as weak signal and FM/repeaters).

I hope that removes some of the misconceptions.

73

Jeff


--
Jeff King, jeff@aerodata.net on 11/27/2002


On Wed, 27 Nov 2002 17:05:18 +1100, Darryl Smith wrote:
>G'Day All...
>
>Steve Stroh is not the only TAPR board member on this list. I am
>also a
>TAPR board member, although the only time I need to worry about the
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>
>Let me make one thing clear. I am in favour of Part 95 and Part 15
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>>If some hams want to use part 97 for spread=  spectrum, I
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>
>---------
>Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
>Mobile Number 0412 929 634 [+61 4 12 929 634 International]
>Darryl@radio-active.net.au | www.radio-active.net.au
>
>
>
>---
>You are currently subscribed to ss as: jeff@aerodata.net
>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 198. [ss] ISP in a box

From: "Stephen Nichols" <sgnichols@mindspring.com>
Date: Wed, 27 Nov 2002 12:36:31 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108772-2002.11.27-14.21.00--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

http://news.com.com/2100-1033-959924.html

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 199. [ss] RE: HSMM Experimenters Group

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Thu, 28 Nov 2002 08:13:43 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108779-2002.11.27-15.58.19--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> trouble. Changing the MAC address... I can see the potential
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> station. Be careful...

Hmm, I dunno, because the modified MAC address becomes station
identification, and the modification can be software controlled (iwconfig on
a Linux box anyone?).  Besides, there is already a precedent set by packet
radio, as effectively, the MAC address of packet is the callsign/SSID
combination, similar to what's proposed here.  And using the callsign DOES
identify who is in control of the transmission, so if a closer inspection of
the equipment is warranted, the authorities know which door to knock on...

> As and adjunct I did a search of frequency allocations in the ISM band
> here in Oz state wide. I found that there is exactly one
> station that is
> running 150w PEP on 802.11b Channel 1. It is a Ham Radio repeater
> licensed for ATV. I can see which would win if there was ever a fight.
> There is luck that the repeater is in the middle of nowhere so WISP's
> will not have to worry about it.

Which repeater's that?  Just curious...

---
Outgoing mail has been scanned for Viruses
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.422 / Virus Database: 237 - Release Date: 20/11/2002

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---
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## 200. [ss] ARRL 802.11b Protocols

From: "John Champa" <k8ocl@hotmail.com>
Date: Thu, 28 Nov 2002 14:26:28 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108868-2002.11.28-14.11.00--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Greetings!

For all the folks out there on this webpage who would like to disagree with the changes being made by the adoption of the ARRL 802.11b Protocols at our HSMM Experimental Test Nodes, you may be disappointed to find that, at least at present, we have proposed no changes in adopting IEEE 802.11 standards to Part 97.  Basically, what we have agreed on is standardized operational protocols:

--exclusive use of horizontal polarization - mobile, portable and fixed.
--exclusive use of 2437 MHz center frequency (Part 15's channel 6)
--use of our callsigns in lower case for the SSID (beacon signal)
--optional automatic link up with APRS on 144.39 MHz for HSMM station and/or node location identification(designated by a diamond shaped "access point" symbol with the number "8" inside)...Jeff King is still working out the details of that one with the APRS folks
--local voice coordinating frequency when in the vicinity of an HSMM node. This is for "talk-in" help into-the-network-type assistance and sometimes even talk-in to the node (i.e., for directions...HI) to get a bit better throughput.  We currently use 446.00 MHz FM (the National Simplex Calling Frequency) using low power 1-5 watt rigs at the node, for this purpose.

HSMM Debates:

Chief, at the moment among these internal debates, is the HSMM has determined how to best change the center frequency away from 2437 MHz, say to 2439 MHz. The League isn't in the hardware business, so somebody else would have to sell these modified cards. However, so far, most HSMM Working Group members have argued against doing changing the test node frequencies. Their main rationale is that the primary purpose of developing the ARRL 802.11b Protocols is to provide high speed multimedia networks for the support of emergency communications and other public service activities. Moving the nodes away from 2437 MHz may prevent a Ham equipped with a IEEE 802.11b standard Radio LAN (RLAN) card in an emergency situation from connecting to an HSMM node because he doesn't have one of the "special ARRL 802.11b cards" operating on 2439 MHz.  That's probably good reasoning.

Future development areas:

--HSMM is opening an SS webpage in the next few days on the ARRL web, and yes, it will contain a link to TAPR, thank you, and other sites.

--HSMM is planning to file an STA through the ARRL with the FCC in February requesting permission, among other things, to operate SS under Part 97 running up to 10 watts output before Automatic Power Control (APR) is required.  Currently the level is set at 1 watt RF output.  We have several HSMM test nodes wishing to operate with 1-4 watts output without having to design an APR system.  Any other FCC SS regulations that need relaxing, in your opinions???

--HSMM link-up with ICOM's D-Star digital voice system on 1.2 GHz and 10 GHz

when the product finishes its current testing in Japan and is released to
the US.

Any other SS areas the HSMM should be researching???  Let's hear from you.
Thank you.

Vy 73,
John Champa - K8OCL
ARRL Chairman
HSMM Working Group
k8ocl@arrl.net

From: "TAPR Spread Spectrum Special Interest Group digest"
<ss@lists.tapr.org>
Reply-To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
To: "ss digest recipients" <ss@lists.tapr.org>
Subject: ss digest: November 27, 2002
Date: Thu, 28 Nov 2002 00:00:31 -0500

TAPR Spread Spectrum Special Interest Group Digest for Wednesday, November
27, 2002.

1. RE: HSMM Experimenters Group
2. Make Ham 802.11 Illegal...
3. Re: Part 15 a very bad idea
<LYR27907-107097-2002.11.15-11.19.05--rwmcgwier#comcast.net@lists.tapr.org>
4. RE:ARRL HSMM Working Group....
5. RE:ARRL HSMM Working Group....
6. RE: HSMM Experimenters Group
7. ISP in a box
8. RE: HSMM Experimenters Group

---

Subject: RE: HSMM Experimenters Group
From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Wed, 27 Nov 2002 17:05:18 +1100
X-Message-Number: 1

G'Day All...

Steve Stroh is not the only TAPR board member on this list. I am also a
TAPR board member, although the only time I need to worry about the FCC
is when I come to the USA for a holiday or for work.

Let me make one thing clear. I am in favour of Part 95 and Part 15 uses
of 802.11. IN FAVOUR.

 >If some hams want to use part 97 for spread=  spectrum, I
 >think TAPR and the amateur community should be behind them
 >instead of this nitpicking BS/NIH on this SIG I have been seeing.

Just because I support the use of 802.11 by hams and non-hams in the
same band does not mean that I aggree with the 'ARRL 802.11 Standard'. I
believe that Hams have a lot to offer to the Community Wireless  and
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and people are listening. Other people are saying this too.

BUT, I believe that the HSMM is misguided in what they are attempting to
do in terms of standardisation. Rear Admiral Grace Hooper once said that
the great thing about standards is that there are so many to choose
from. This is the problem. Once you get more standards you reduce the
availability of your equipment.

The reason why the TAPR SS Radio failed was because parts became
un-available. The reason that the 'ARRL 802.11 Standard' will untimately
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use them.

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style court case over that one. Especially now that the Homeland
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be shown to be a method of obscuring the real hardware address of the
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As and adjunct I did a search of frequency allocations in the ISM band
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running 150w PEP on 802.11b Channel 1. It is a Ham Radio repeater
licensed for ATV. I can see which would win if there was ever a fight.
There is luck that the repeater is in the middle of nowhere so WISP's
will not have to worry about it.

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Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

---

Subject: Make Ham 802.11 Illegal...
From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Wed, 27 Nov 2002 19:24:02 +1100
X-Message-Number: 2

People...

About a week ago I was at a talk by Australia's (and maybe the worlds)
greatest living Ham - VK2DIK - Dick Smith - who was the first person to
fly to the north pole, and round the world, in a helicopter.

He suggested that the best way to make Ham Radio appealing was to make
it illegal. When CB was illegal in Australia Dick sold a huge number of
CB radios to teenage males. When he got it legalised, the number of
sales dropped to almost nothing.

So in Ham Radio what we need to do is make Spread Spectrum on ham bands
illegal... That should encourage people to start playing with 802.11 Ham
illegally... But it would be hams playing with ham technical standards.

Darryl

P.S. Who says that Ham Radio needs to be done on Ham Bands anyway... I
do a lot of APRS on commercial bands... But it is still Ham Radio :-)

---------
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

---

Subject: Re: Part 15 a very bad idea
<LYR27907-107097-2002.11.15-11.19.05--rwmcgwier#comcast.net@lists.tapr.org>
From: Robert McGwier <rwmcgwier@comcast.net>
Date: Wed, 27 Nov 2002 06:17:42 -0500
X-Message-Number: 3

The FCC shut down the the 72 mile experiment with an enforcement
action.

Bob N4HY

---

Subject: RE:ARRL HSMM Working Group....
From: Ron Schroeder <rjs@bnl.gov>
Date: Wed, 27 Nov 2002 07:47:04 -0500
X-Message-Number: 4

Hi Darryl,

This is only true in free space.  In buildings and often outside of
buildings the polarization disruption eleminates most if not all of that

seperation.  Once the signal gets difracted by objects, all bets are off.
When I try to get maximum range in buildings, I rotate the polarization of
the remote antenna for maximum signal and it is hardly ever at it's peak
with both antennas at the same polarization.

Ron Schroeder WD8CDH
Brookhaven National Lab
Building 911A
Upton NY 11973
631 344-4561


<snip>
 > >>Part 15 users are, for all practical purposes, all vertically
 > >
 > > polarized.
 > >
 > >>That provides a theoretical 20-25 dB separation between us and them.
<snip>
 > >
 > > Once the ISP's realise that they can double the number of access points
 > > with horizontal polarisation, I think that the ability for hams to use
 > > Horizontal as a way to stay away from commercial interests is going to
 > > be basically farcical.
 > >
 > > Darryl VK2TDS

---

Subject: RE:ARRL HSMM Working Group....
From: "Mike McCarthy, W1NR" <w1nr@eecorp.com>
Date: Wed, 27 Nov 2002 08:20:48 -0500
X-Message-Number: 5

Agere radios use horizontal polarization.  Intersil based designs
use vertically polarized antenna.  Directional antenna used in
Point-to-Point are mostly horizontal.  Ron is also basically
correct in that inside a building, with all of the reflection
and multi-path, polarization becomes moot.

If one wanted to really separate the HAM community from
part 15, then just use different spread sequences.  I saw
a demonstration during the early days of the 802.11
committee meetings on how to stack up to 60 different
users on a single channel using a method of different spread
sequences.  Of course, the IEEE in their infinite wisdom
chose not to adopt it.

Mike, W1NR


-----Original Message-----
From: bounce-ss-28630@lists.tapr.org
[mailto:bounce-ss-28630@lists.tapr.org]On Behalf Of Ron Schroeder
Sent: Wednesday, November 27, 2002 7:47 AM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] RE:ARRL HSMM Working Group....


Hi Darryl,

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Ron Schroeder WD8CDH
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> > Darryl VK2TDS

---
You are currently subscribed to ss as: w1nr@eecorp.com
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---

Subject: RE: HSMM Experimenters Group
From: Jeff King <jeff@aerodata.net>
Date: Wed, 27 Nov 2002 14:19:09 -0500
X-Message-Number: 6

Hi Darryl:

I think you mean you are in favour of Part *97* and Part 15 use=
of 802.11b.
Part 95 here in the U.S. is the 27mhz AM citizen band, FRS, GMRS=
and the new
MURS service. Only ~20khz of bandwidth and the only one of the 4=
that allows
data is MURS.

Having some of the "HSMM" stations in my neck of the woods, I can=
state that
everything I have seen/heard about is just standard 802.11b=
stuff. No special
protocols. Cisco's, Orinco's and Linksys cards make up the stable=
of RF gear.
Some 1-3 watt amps and a assortment of omni and gain antennas. No=
rocket
science here, just some hams dinking with 802.11b gear trying to=
see what
they can do with it.

I think the real intent here is just to foster some=
experimentation on
amateur radio spread spectrum. I wouldn't read more then that=
into it at this
point.

The only real "standards" I have seen is the desire to=
standardize 802.11b
channel 6 as the ham channel and suggest horizontal polarization.=
The
"changing the protocol' is just talk, the former is action. Not=
to say it
won't happen, but IMHO, the ARRL HSMM fully understands the=
concept of you
have to walk before you can run.

Understand, channel one of the 802.11b protocol is the weak=
signal part of
2.4ghz. Above channel 6 is not in then ham band. I'm referring to=
the U.S.
allocations. Having fellow hams running 802.11b on the weak=
signal part of
2.4ghz would not be a good idea. Hence, I am in support of some=
standards
here if we ever expect to become part of mainstream amateur=
radio.

A additional benefit of channel 6, if we get a buy in, is next=
  time we go
back to the table, it will be that much easier to get spread=
  spectrum as a
primary user of the ham band on pare with other part 97 users, at=
  least in
that part of the band. Understand, in the U.S., Part 97 spread=
  spectrum users
are secondary to any other amateur radio operator. We are limited=
  to 1 watt
power output (unless we implement APC) and have to defer to any=
  other amateur
radio operator (including ATV as well as weak signal and=
  FM/repeaters).

I hope that removes some of the misconceptions.

73

Jeff


--
Jeff King, jeff@aerodata.net on 11/27/2002


On Wed, 27 Nov 2002 17:05:18 +1100, Darryl Smith wrote:
 >G'Day All...
 >
 >Steve Stroh is not the only TAPR board member on this list. I=
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>Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
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>
>
>
>---
>You are currently subscribed to ss as: jeff@aerodata.net
>To unsubscribe send a blank email to=
 leave-ss-6751T@lists.tapr.org

---

Subject: ISP in a box
From: "Stephen Nichols" <sgnichols@mindspring.com>
Date: Wed, 27 Nov 2002 12:36:31 -0700
X-Message-Number: 7

http://news.com.com/2100-1033-959924.html

---

Subject: RE: HSMM Experimenters Group
From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Thu, 28 Nov 2002 08:13:43 +1100
X-Message-Number: 8

 > trouble. Changing the MAC address... I can see the potential=20
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Which repeater's that?  Just curious...

---
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Version: 6.0.422 / Virus Database: 237 - Release Date: 20/11/2002
=20

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correspondence if you are not the intended recipient.

Any opinions expressed in this message are those of the individual =
sender.



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END OF DIGEST

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## 201. [ss] Re: Part 15 a very bad idea <LYR27907-107097-2002.11.15-11.19.05--rwmcgwier#comcast.net@lists.tapr.org>

From: Jeff King <jeff@aerodata.net>
Date: Thu, 28 Nov 2002 15:03:44 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108874-2002.11.28-14.48.47--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Bob:

Do you have more info on this (like a link)? In light of their recent power
reduction, I'd be interested in reading what rules they were in violation of.

Thanks

--
Jeff King, jeff@aerodata.net on 11/28/2002


On Wed, 27 Nov 2002 06:17:42 -0500, Robert McGwier wrote:
>The FCC shut down the the 72 mile experiment with an enforcement

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>
>Bob N4HY
>
>
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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 202. [ss] RE: ARRL 802.11b Protocols

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Fri, 29 Nov 2002 16:38:33 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-108919-2002.11.29-00.30.08--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

John Champa - K8OCL noted
>For all the folks out there on this webpage who would like to disagree
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>the changes being made by the adoption of the ARRL 802.11b Protocols at
our
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least
>at present, we have proposed no changes in adopting IEEE 802.11
standards to
>Part 97.  Basically, what we have agreed on is standardized operational

>protocols:

I am interested, is this a change from the 17th of October. I am not
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I just want to know exactly what is going to be proposed...

You noted that you have not at present proposed changes to the
underlying 802.11 protocols, but in the following quote from the 17th of
October you basically said that you were calling papers 'development of
a suitable protocol, exactly as the early AX.25 Team did years ago.'

I have two sticking points with the HSMM proposal.
        1. Horizontal Polarisation - although this is one I can live
with because it will be ignored anyway
        2. Protocol Changes.

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>Well, it's not much, but that is about how far we have gotten...in
writing,
>at least.  Additional constructive input to the protocol design would
be
>most welcomed.  The ARRL HSMM WG member responsible for protocol
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>is Kris Mraz, N5KM, [kilo.mike@gte.net].  Kris is working up a "Call
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>Papers" to be published soon requesting specific design, software, etc.

>input from the amateur community in the development of a suitable
protocol,
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as a
>pre-call call for help!  (HI).

Also it is interesting to note that since that date the SSID has gone
from UPPER CASE to LOWER CASE

Darryl

P.S. These are my views only. They are not TAPR's

---
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## 203. [ss] ARRL HSMM Working Group

From: "John Champa" <k8ocl@hotmail.com>
Date: Sat, 30 Nov 2002 09:55:50 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-109089-2002.11.30-09.40.27--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Darryl,

Thanks for your comments. We will always try to quickly respond.

1. Use whatever polarization you want for your SS station. As I mentioned before, you can try to work 2M SSB DX using a vertical beam. You may even have some success. It's just not the accepted norm at this time but you can "ignore" the norm if you select to do so.

Horizontal polarization really seems to work noticeably better, especially in amongst the trees. It's the test results that count in the end, right?

2. Keep in mind that the HSMM working Group has a research and educational function as well as a standards setting function. Kris is preoccupied with getting the April (?) QST article on SS finalized, as he should be. Many Hams don't have a clue as to what SS is at this time. So Kris has not yet issued a Call for Papers for an ARRL HSMM Protocol from TAPR, etc. Subsequently, we haven't made any formal recommendations yet in that regard. But it is coming. That's all I was stating. Your support of no changes or possible proposed changes, is your decision. For example, you can choose to "support" or not the ARRL HSMM Protocols, e.g., you can use FHSS instead of DSSS, etc.

Back to my HSMM testing...we are getting ready to test circular polarization next week at one of the HSMM test nodes.

Vy 73,
John - K8OCL
ARRL Chairman
HSMM Working Group
k8ocl@arrl.net

From: "TAPR Spread Spectrum Special Interest Group digest" <ss@lists.tapr.org>
Reply-To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
To: "ss digest recipients" <ss@lists.tapr.org>
Subject: ss digest: November 29, 2002
Date: Sat, 30 Nov 2002 00:00:11 -0500

TAPR Spread Spectrum Special Interest Group Digest for Friday, November 29, 2002.

1. RE: ARRL 802.11b Protocols

---

Subject: RE: ARRL 802.11b Protocols
From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Fri, 29 Nov 2002 16:38:33 +1100
X-Message-Number: 1

John Champa - K8OCL noted
>For all the folks out there on this webpage who would like to disagree with
>the changes being made by the adoption of the ARRL 802.11b Protocols at our
>HSMM Experimental Test Nodes, you may be disappointed to find that, at least
>at present, we have proposed no changes in adopting IEEE 802.11 standards to
>Part 97. Basically, what we have agreed on is standardized operational

>protocols:

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END OF DIGEST

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# December 2002

Original source file: ss.0212
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/ss.0212

## 1. [ss] Forwarded from the NoCat Mailing List [NoCat] WIFi - Mckinsey report

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Tue, 3 Dec 2002 07:47:45 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-109369-2002.12.02-15.33.51--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The following was on the NoCat mailing list and indicates the type of
pressures on the 2.4 GHz band. I did learn a few things in this report -
like the guy in florida who got 802.11 shout down in his apartment...

Darryl

---
Darryl Smith, VK2TDS  POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

I'd say this is "political heads up" time for those active in WI-FI
network extension activities.
Wi-FI goes to Washington

http://www.mckinseyquarterly.com/article_page.asp?ar=1236&L2=22&L3=78

Some excerpts:

A new technology could not only restart economic growth but also
help connect everyone, everywhere to the
Internet-at low cost.

Reed E. Hundt, Stagg Newman, and John E. Richards
The McKinsey Quarterly, 2002 Number 4

Remember when technology-based start-ups were going to put
established companies out of business? The surviving
incumbents are now having a last laugh. But their schadenfreude may
be short-lived in the telecommunications
industry because a new technology called Wi-Fi (wireless fidelity)
is threatening the business models of the mobile
carriers, the phone gear makers, and the providers of high-speed
DSL and cable modem services.

Wi-Fi-known among techies as 802.11, a reference to its underlying
technology standard-is an alternative means
of Internet access. Simply hook up an inexpensive Wi-Fi base
station (chip plus transceiver) to a high-speed Internet
connection such as DSL, a cable modem, or a T1 line and place this
base station within a couple of hundred feet of a
house. All users in the vicinity who have a very inexpensive Wi-Fi
device in their PCs or PDAs can then share low-cost,
high-speed access to the Internet, without having to pay
individually for more expensive dedicated DSL or cable
modem service.

Even better, with exciting new technologies such as mesh and ad hoc
networks, improved Wi-Fi devices could create
overlapping Wi-Fi networks in hotels, airports, office buildings,
and malls. Strings of linked Wi-Fi networks can stretch
through apartment buildings, campuses, and neighborhoods. Forget
about digging up streets for fiber to every building
or about erecting forests of towers; Wi-Fi can stretch the fabric
of Internet connectivity, cheaply and painlessly, over
any community to points where traffic is aggregated onto high-speed
fiber backbone networks.

Wi-Fi exploits the spectrum used by gadgets such as cordless
telephones and microwave ovens-airwaves that
haven't been auctioned or allocated to an exclusive user. This is
the proverbial free lunch of spectrum. At last,
Internet access can be easy, cheap, always on, everywhere. And

Wi-Fi access is fast: indeed, with a fiber rather than
a DSL or cable modem connection from the backbone network to the
Wi-Fi base station, the transfer speed of Wi-Fi
can be faster than the typical speeds of those technologies.1 A
fiber connection of this sort would make it easy to
download, stream, and swap movies-or vast volumes of corporate
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generation of flat screens equipped with Wi-Fi chips. Users will be
able to make telephone calls by speaking into
microphones in their lapels or on the edges of their computer
screens. Guglielmo Marconi, the inventor of wireless
communication, will have the last laugh on Alexander Graham Bell,
the inventor of the telephone.

What's the rub? Telephone companies could find that Wi-Fi will
replace the additional, or "discretionary," phone lines
that residential and business customers have had installed to
supplement the traditional single "lifeline" connection.
That change alone would probably make every telephone company in
the United States unprofitable. Mobile carriers
too could lose a substantial portion of their revenues
(particularly future wireless data revenues) to Wi-Fi networks.

For the mobile and wireline phone companies, the market-based
reaction would be to embrace the new technology
and extend its applications. But the likely alternative-though one
that would poorly serve the economy and
consumers-is for those companies to use the power of governments to
slow or thwart Wi-Fi's advance. Already, in
Taiwan only communications providers licensed by the government can
operate commercial Wi-Fi networks. Some
European countries appear to have similar, albeit ambiguous,
regulations. Under such rules, Starbucks, which has put
Wi-Fi connectivity into many of its shops, may not be able to
charge an additional nickel a cup to patrons who want to
have the Internet along with their coffee. Meanwhile, in the United
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providers from offering commercial Wi-Fi services but recently took
the wise course and reversed this rule, and BT
has already indicated that it will offer them.

Wi-Fi might also be squelched if governments decided to favor other
industries that use the same radio frequencies.
In Florida, one ham-radio operator has gone to court to shut down a
Wi-Fi operator on the grounds that the
apartment dwellers using this form of wireless Internet access were
interfering with his radio. The electrical-lighting
industry has petitioned the US Federal Communications Commission
(FCC) to permit the use of the spectrum in a
way that would create difficulties for Wi-Fi. And satellite
operators have complained that Wi-Fi broadcasts will
obstruct signals to and from satellites.

Such spectrum battles are chronic at the FCC. Each of them will
give the government a choice: to promote Wi-Fi or to
restrain it. Even if the FCC sided with Wi-Fi on all issues of
competing use, consumers would still have to reckon with
the possibility that the government might protect existing
communications services by forcing Wi-Fi to meet
regulatory requirements for the security of signals and the quality
of service. Actually, meeting these standards would
be a laudable goal, but it should be achieved through competition
and innovation, not government mandates.
Imposing such requirements is a time-tested regulatory way of
deterring competition and delaying change.

Finally, the biggest risk is simply that the FCC might fail to
allocate enough spectrum for free, unlicensed Wi-Fi and its
many offshoots. If this new technology sweeps the country and the
globe, as experts claim it can, spectrum auctions
might become unnecessary to promote competition. Looking beyond
auctions for revenues, the US Treasury
Department might have to settle for reasonable taxation of a newly
burgeoning information sector. But if
governments become addicted to auction revenues, they may resist
the allocation of free airwaves to Wi-Fiers.

---

--------

     Change is the elixir of growth in any economy, especially in the high-tech and innovation-driven economy of the
     United States. Now is the time for the US government to embrace Wi-Fi and, for that matter, many related new
     technologies. Let inventiveness again lead the country to new plateaus of high growth and to new solutions for the
     problem of bringing everyone into the Internet age.

     Notes:

     Reed Hundt, the chairman of the FCC from 1993 to 1997, is now a senior adviser to McKinsey; Stagg Newman, chief
     technologist of the FCC from 1998 to 1999, is a consultant in McKinsey's Washington, DC, office; John Richards is a
     consultant in the Silicon Valley office.

     1This approach, however, wouldn't necessarily cut the DSL and cable providers out of the business, since these
     companies own most of the backbone networks and would therefore be the natural providers of fiber connections
     from them to Wi-Fi base stations.


str8bizness wrote:


Hill Heavyweights Preparing Their Own Spectrum Plan
By Mark Rockwell
November 22, 2002
news@2 direct
WASHINGTON--Despite the FCC's attempt to provide a blueprint for future ways to harness spectrum, Congress apparently is preparing its own vision of how the resource should be used.
There have been several indications in the last few weeks that Congress will take up allocation and other spectrum-related issues in its next session. Sen. John McCain, R.-Ariz., chairman of the Senate Commerce Committee, has issued a brief statement listing spectrum next to the financial crisis in telecom, FCC re-authorization, broadband deployment and media consolidation as important issues the committee would address in the 108th Congress.

McCain and spokespeople for the Commerce Committee didn't provide specifics about when or how those issues would be addressed by the committee, however.

There also have been rumblings from Capitol Hill that Sen. Conrad Burns, R-Mont., another key telecom character on the Senate Commerce Committee, is keen on looking at 'major spectrum reform' legislation, say Capitol Hill sources. A draft bill could incorporate measures aimed at new methods of selling spectrum and how the revenue received from those sales is incorporated into the federal budget, said a Senate aide familiar with spectrum issues.

Additionally, there also could be some effort to realign the spectrum relationship between the FCC and NTIA, the aide says. Hearings could begin soon after the beginning of the year.

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## 2. [ss] Re: Forwarded from the NoCat Mailing List [NoCat] WIFi - Mckinsey report

From: Jim Sanford <wb4gcs@amsat.org>
Date: Mon, 02 Dec 2002 16:42:54 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-109371-2002.12.02-16.27.39--lyris.ss#tapr.org@lists.tapr.org>
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There's some real hype in here .. especially the bit about being FASTER than cable, dsl, fiber etc.  (At least according to what I read in the trade press.)

Also liked the bit about needing no more fiber in the ground, just let adjacent wi-fi networks propagate . . . shades of trying to netrom from

DC to FL on vhf packet!

73,
Jim
wb4gcs@amsat.org

Darryl Smith wrote:
>
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>
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## 3. [ss] Re: Forwarded from the NoCat Mailing List [NoCat] WIFi - Mckinsey report <LYR27907-109371-2002.12.02-16.27.39--rwmcgwier#comcast.net@lists.tapr.org>

From: Robert McGwier <rwmcgwier@comcast.net>
Date: Mon, 02 Dec 2002 20:19:52 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-109397-2002.12.02-20.07.18--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

802.11a  _IS_ faster than cable, dsl, etc.  802.11b in my house
is faster than cable, dsl, etc.   I immediately dump it into
my cable modem through a router/firewall (linux based) and that
gets limited to 3.5 Mbps/500kbps (measured) by Comcast Pro but
the wireless backbone in my house is regularly measured 8 Mbps.

For those who use 802.11 (a or b), I experimented with the
channel until I found one that sustained the best rates for my
house.  I have not a single clue why this happens to be the
case, probably materials in my house, but it is a repeatable

experiment.  My oldest son was having much poorer results on
his laptop in his room until I changed channels in my wireless
access point.

Bob

---
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## 4. Your confirmation is needed (ok 6751)

From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Tue, 03 Dec 2002 02:07:59 -0500
To: lyris.ss@tapr.org
Message-ID: <LYR6751-109431-2002.12.03-02.07.59--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

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To confirm that you do want to unsubscribe, reply to this message so that
the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to
unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the
mailing list.

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Return-Path: <jzlin@bossmedia.se>
Received: from relay2.bt.net ([194.72.6.62]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Tue, 03 Dec 2002 02:07:47 -0500
Received: from webstorm.megabyte.co.uk ([194.73.231.146] helo=filestorm.swanmore.megabyte.local)
        by relay2.bt.net with esmtp (Exim 3.22 #1)
        id 18J7OU-00007w-00; Tue, 03 Dec 2002 07:22:58 +0000
Received: from naseem.borsen.dk ([211.114.62.130] unverified) by filestorm.swanmore.megabyte.local with
Microsoft SMTPSVC(5.0.2195.2966);
         Tue, 3 Dec 2002 07:16:39 +0000
Message-ID: <000008f15d84$00001d42$00003411@naseem.borsen.dk>
To: ss-request
From: "E-Merchant Solutions" <jzlin@bossmedia.se>
Subject:
Date: Mon, 02 Dec 2002 23:18:57 -2000
MIME-Version: 1.0
Content-Type: text/html;
        charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable
X-OriginalArrivalTime: 03 Dec 2002 07:16:42.0163 (UTC) FILETIME=[EDE54830:01C29A9B]

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <jzlin@bossmedia.se>
Received: from relay2.bt.net ([194.72.6.62]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Tue, 03 Dec 2002 02:07:47 -0500
Received: from webstorm.megabyte.co.uk ([194.73.231.146] helo=filestorm.swanmore.megabyte.local)
        by relay2.bt.net with esmtp (Exim 3.22 #1)
        id 18J7OU-00007w-00; Tue, 03 Dec 2002 07:22:58 +0000
Received: from naseem.borsen.dk ([211.114.62.130] unverified) by filestorm.swanmore.megabyte.local with
Microsoft SMTPSVC(5.0.2195.2966);
         Tue, 3 Dec 2002 07:16:39 +0000
Message-ID: <000008f15d84$00001d42$00003411@naseem.borsen.dk>
To: <jzlin@bossmedia.se>
From: "E-Merchant Solutions" <jzlin@bossmedia.se>
Subject: Expand Your Business Now

```
Date: Mon, 02 Dec 2002 23:18:57 -2000
MIME-Version: 1.0
Content-Type: text/html;
        charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable
X-OriginalArrivalTime: 03 Dec 2002 07:16:42.0163 (UTC) FILETIME=[EDE54830:01C29A9B]

<HTML>
<HEAD><TITLE>Increase Sales By Accepting Credit Cards Online</TITLE>
</HEAD>
<BODY vLink=3D#ff0000 aLink=3D#289d2c bgColor=3D#ffffff leftMargin=3D0>
<DIV align=3Dcenter>
<CENTER>
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>
  <TBODY>
  <TR>
    <TD width=3D"100%" height=3D662>
      <DIV align=3Dcenter>
      <P><FONT face=3D"Georgia, Times, New Roman" color=3D#289d2c
      size=3D6><B>Accepting Credit Cards Has <BR>Never Been Easier!</B></F=
ONT></P>
      <P align=3Dleft><FONT face=3D"Times, New Roman" size=3D3>Whether you=
 are
      starting your business from scratch, or already have an existing bus=
iness,
      we make it simple to set up your merchant account.</FONT></P>
      <P align=3Dleft><FONT face=3D"Arial, Helvetica, sans-serif"><B>No Se=
t-up
      Fee<BR>No Application Fee<BR>Real-time, Online Payment
      Transactions<BR>Ground Breaking 98% Approval <BR>Fast 5-7 Day Set-up=

      <BR>Same Day Approval</B> </FONT></P>
      <P align=3Dcenter><FONT face=3D"Georgia, Times New Roman, Times, ser=
if"
      color=3D#ff0000 size=3D5><B>Make Money While You Sleep</B></FONT><BR=
><FONT
      face=3D"Times, New Roman" color=3D#000000 size=3D4>Qualified Busines=
ses
      Get:</B></FONT></P>
      <P align=3Dleft><FONT face=3D"Arial, Helvetica, sans-serif"><B>Free =
Website
      Design<BR>Free Web Hosting for 1 Year<BR>Free Shopping Cart<BR>Free =
Web
      Promotion <BR>Free Tech Support<BR></B></FONT></P>
      <P align=3Dcenter><FONT face=3D"Georgia, Times New Roman, Times, ser=
if"
      color=3D#289d2c size=3D5><B>Accepting Credit Cards Is A Must For <BR=
>Any
      Successful Business!</B></FONT></P>
      <P align=3Dleft><FONT face=3D"Times, New Roman">We make it easy, aff=
ordable
      and secure for businesses to accept non-cash transactions and manage=
 their
      e-business on the Internet. "Accepting credit cards online can incre=
ase
      sales by as much as 1500%", says the <I>Wall Street Journal.</I> Sta=
rt
      excepting credit cards today to establish a professional web presenc=
e and
      give your company a chance to compete in today=FFFFFF92s business
      market.</FONT></P>
      <P align=3Dcenter>
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        <TR>
          <TD align=3Dmiddle><FONT color=3D#00000>
            <MARQUEE><B>IMPROVE YOUR COMPETETIVE
            ADVANTAGE.</B></MARQUEE><BR><BR><B>Fill out the <I>no obligati=
on</I>
            form below <BR>for more
      information.<BR><BR></B></FONT></TR></TBODY></TABLE></P></DIV></TR><=
/TBODY></TR></TD></FONT></B>
  <P></P>
  <P></P></TABLE>
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borderColorLight=3D#ffffcc>
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_Inquiry
      method=3Dpost encType=3Dtext/plain>
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        <TR>
          <TD align=3Dright width=3D"50%"><FONT face=3D"Times, New Roman"
            color=3D#000000 size=3D2>Name</FONT> <FONT color=3D#ff0000
          size=3D2>*</FONT></TD>
          <TD><INPUT name=3DNAME></TD></TR>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT face=3D"Times, New Roman"
            color=3D#000000 size=3D2>State</FONT> <FONT color=3D#ff0000
          size=3D2>*</FONT></TD>
          <TD><INPUT size=3D2 name=3DState></TD></TR>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT face=3D"Times, New Roman"
            color=3D#000000 size=3D2>Day Phone</FONT> <FONT color=3D#ff000=
0
            size=3D2>*</FONT></TD>
          <TD><INPUT name=3DDay Phone></TD></TR>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT face=3D"Times, New Roman"
            color=3D#000033 size=3D2>Night Phone</FONT></TD>
          <TD><INPUT name=3DNight Phone></TD></TR>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT face=3D"Times, New Roman"
            color=3D#000000 size=3D2>Best time to contact</FONT></TD>
          <TD width=3D"56%"><FONT color=3D#000000><SELECT size=3D1 name=3D=
Best contact
            to time> <OPTION selected></OPTION> <OPTION
              value=3DMorning>Morning</OPTION> <OPTION
              value=3DAfternoon>Afternoon</OPTION> <OPTION
              value=3DEvening>Evening</OPTION></SELECT></FONT></TD></TR>
        <TR>
          <TD align=3Dright width=3D"50%"><FONT face=3D"Times, New Roman"
            color=3D#000000 size=3D2>E-mail Address</FONT> <FONT color=3D#=
ff0000
            size=3D2>*</FONT></TD>
          <TD><INPUT name=3DE-mail Address></TD></TR>
        <TR>
          <TD width=3D"50%">
            <DIV align=3Dright><FONT face=3D"Times, New Roman" color=3D#00=
0000
            size=3D2>Years In Business</FONT></DIV></TD>
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              value=3D0-1>0-1</OPTION> <OPTION value=3D1-3>1-3</OPTION> <O=
PTION
              value=3D3-5>3-5</OPTION><OPTION
        value=3D5+>5+</OPTION></SELECT></FONT></TD></TR>
        <TR>
          <TD width=3D"44%">
            <DIV align=3Dright><FONT color=3D#000000><FONT face=3D"Times, =
New Roman"
            size=3D2>Questions/Comments</FONT></FONT></DIV></TD>
          <TD width=3D"40%"><FONT color=3D#000000><TEXTAREA name=3DCOMMENT=
S rows=3D3 wrap=3Dphysical cols=3D18></TEXTAREA>
            </FONT></TD></TR></TBODY></TABLE>
      <P><INPUT type=3Dsubmit value=3D"Submit Information" name=3Dsubmit>
    </FORM></P></TD></TR></TBODY></TABLE><BR><BR>
<P>
<TABLE width=3D420 border=3D0>
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  <TR>
    <TD align=3Dleft><FONT color=3D#ff0000 size=3D2><B>*Note: </B></FONT><=
FONT
      color=3D#000000 size=3D2>If you are using a web based email system (=
such as
      Yahoo!, Hotmail etc.) the form above will not work. Instead of using=
 the
      form, please <A
      href="http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/3D&amp;quot;mailt
o:merchants@virtual-biz.net?subject=3De-commerce_inquir="
y">click
      here.</A><BR></FONT></TD></TR>
  <TR>
```

```
    <TD align=3Dmiddle><FONT color=3D#ff0000 size=3D2><B>You need to inclu=
de your
      name, state, and phone number in the body of the message to receive =
a
      response. Thank you.<BR><BR></B></FONT><FONT color=3D#000000 size=3D=
1>To be
      removed, send an email to: <U>remove@virtual-biz.net</U> with the wo=
rd
      "remove" in the subject line.
</FONT></TD></TR></TBODY></TABLE></P></CENTER></DIV></BODY></HTML>
```

## 5. [ss] Authors Wanted for PSR and DCC...

```
From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Wed, 4 Dec 2002 17:05:40 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: "TAPR Board of Directors" <tapr-board@lists.tapr.org>,
        "TAPR APRS Special Interest Group" <aprssig@lists.tapr.org>,
        "htaprs digest recipients" <htaprs@lists.tapr.org>,
        "aprs sig \(aprs sig\)" <aprssig@tapr.org>,
        "'APRS Spec Discussion List'" <aprsspec@lists.tapr.org>,
        "'TAPR PIC Development Special Interest Group'" <picsig@lists.tapr.org>,
        "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>,
        "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR6751-109541-2002.12.04-00.51.56--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain
```

G'Day

TAPR have decided to introduce some changes to support those members of TAPR who are putting time and energy into the various publications that TAPR puts out each year.

Three Month Membership Extension for Packet Status Register (PSR) Articles
---
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>From the next issue of PSR, members who have articles published in the PSR magazine will have their membership of TAPR extended by three months. It is hoped that this will encourage members to write for the magazine. The deadline for articles for the next issue of PSR is mid-January. More information on submitting articles, and on obtaining copies of the magazine can be found on http://www.tapr.org/tapr/html/Fpsr.html

Six Month Membership Extension for Digital Communications Conference (DCC) Articles
---
---

>From the 2003 DCC, planned for somewhere in the Eastern USA, TAPR will be offering Six Month membership extensions for all members who have papers published in the proceedings. Whilst we would dearly love all authors of papers to attend the conference, we recognize that there are reasons that members cannot attend the conference - so the requirement is only on having your paper published.  This is of course in addition to the complimentary copy of the DCC proceedings that each author is entitled to.

We are looking for papers on subject within the bounds of Digital Communications, as it applies to Ham Radio, on all levels. All you need is something to say. If you feel that you are unable to write a paper because you do not have the time, or writing a paper is outside your area of expertise, please contact me. I will attempt to find someone who will be able to help you with getting the paper written.

More details on the conference itself will be made available early in 2003, along with a formal call for papers. Until then you can examine the DCC area of the TAPR www site for details on past conferences by looking at http://www.tapr.org/dcc/

Darryl VK2TDS
TAPR Board Member

---
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 6. [ss] ISP Proposal and Illegal operation

From: "Joe S. Borovetz" <wa5vms@tapr.org>
Date: Wed, 04 Dec 2002 17:55:23 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-109615-2002.12.04-18.15.22--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have just found out that a local ISP in Muskogee Oklahoma, they also have
operations in Tulsa OK, company name of OnRamp, is trying to rent some
tower space to install 802.11b wireless networking.

They propose to do a 28 mile link and don't seem to mind that the 4 watt
transmitter connected directly to a 30 dB gain dish mounted at the top of a
tower, they don't seem to mind the fact that they are violating Part 15 rules.

I have visited with one fellow, who happens to be a ham, and they plan to
go ahead with these high power operations in spite of the rules.

It is my understanding that they have equipment on the air in Tulsa OK and
from the description, none of it meets Part 15 power limitations.

Can someone on the list help me with who to contact since I plan to notify
these folks that I will turn them in to the FCC the day they go on the air
with such an operation.

Joe

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 7. [ss] Re: ISP Proposal and Illegal operation

From: Jeff King <jeff@aerodata.net>
Date: Wed, 4 Dec 2002 22:19:23 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-109650-2002.12.04-22.04.38--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I would contact Ed Hare at the ARRL if they are interfering with legitimate
amateur operations.

Or if not, you could suggest they make a press release bragging about their
link  ;-)

--
Jeff King, jeff@aerodata.net on 12/04/2002

On Wed, 04 Dec 2002 17:55:23 -0600, Joe S. Borovetz wrote:
>I have just found out that a local ISP in Muskogee Oklahoma, they
>also have
>operations in Tulsa OK, company name of OnRamp, is trying to rent
>some
>tower space to install 802.11b wireless networking.
>
>They propose to do a 28 mile link and don't seem to mind that the 4
>watt
>transmitter connected directly to a 30 dB gain dish mounted at the
>top of a
>tower, they don't seem to mind the fact that they are violating Part
>15 rules.
>
>I have visited with one fellow, who happens to be a ham, and they
>plan to
>go ahead with these high power operations in spite of the rules.
>
>It is my understanding that they have equipment on the air in Tulsa
>OK and
>from the description, none of it meets Part 15 power limitations.
>
>Can someone on the list help me with who to contact since I plan to

>notify
>these folks that I will turn them in to the FCC the day they go on
>the air
>with such an operation.
>
>Joe
>
>
>---
>You are currently subscribed to ss as: jeff@aerodata.net
>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 8. [ss] Re: ISP Proposal and Illegal operation

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Thu, 5 Dec 2002 18:58:16 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-109684-2002.12.05-02.44.50--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Yesterday the comment was made

>They propose to do a 28 mile link and don't seem to mind that the 4
watt
>transmitter connected directly to a 30 dB gain dish mounted at the top
of a
>tower, they don't seem to mind the fact that they are violating Part 15
rules.

The value of 4W seems to be suspcious... I suspect that it is 4W eirp,
with a 30db Gain antenna. 4W with a 30db gain antenna would mean a EIRP
of 4000W, which is so far outside the realms of the legality that it is
not funny. YDI is selling a 1 Watt amp, which they suggest can be used
with a 24db antenna which they say can go 80 miles - which is only 200W
EIRP. And this is the most powerful amp I could find there.

Basically I doubt that the ISP is running that much power. If they do
they can cook food... And I am sure that the FCC would have people
calling up about a strange heating....

>I would contact Ed Hare at the ARRL if they are interfering with=
legitimate
>amateur operations.

I would advise against getting the ARRL involved. Lets face it - the 2.4
GHz band is defacto secondary with the 802.11 commercial interests. If
you fight that you will loose. Ham Radio will not win. There is a bigger
national good at stake. Kicking commercial users out of the airspace is
bad publicity for us. That is the worst thing we can do at the moment.

If they are running too much power, contact the FCC, but don't mention
you are a ham. Just a concerned citizen.

Darryl

---------
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 9. [ss] Re: ISP Proposal and Illegal operation

From: Anthony.N.Martin@marconimobile.com
Date: Thu, 5 Dec 2002 11:11:21 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>

Message-ID: <LYR6751-109687-2002.12.05-05.55.58--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Cook food???

An EIRP of 4000W means no such thing.

You are still radiating a total of 4W. No more power
magically comes from anywhere.

If you put your christmas turkey in front of the dish,
all 4W of it might go into the turkey, and, suprisingly
enough, it might just about defrost, it would not cook.
The XYL would not be impressed with dinner.

So what's the difference compared to an omni dipole?
It's just far more difficult to get all 4W into the turkey.
Put it near the dipole and you might catch 0.4W. The
rest goes off into space.

To put this in context, the normal dissipation of a
living human is around 300W, I'd guess a turkey
when it's alive would be around 30W. Temperature
at this dissipation is 37 deg. C, call that a rise of
20C above ambient. So 4W in a turkey might
raise its temperature by 3 degrees maybe?

Inmarsat-A ship-earth-station is 40W at 1.6GHz into
0.9m dish. No birds fell out of the sky.

Although you wouldn't cook if you stood in front of
4000W EIRP, the field strength is not considered
safe, so only use dead turkeys for this experiment...

Ant M1FDE

Ah, now if you put an 800W magnetron at the feed,
that would be different. Now you're cooking with RF!

What you need is one of these...
http://www.nec-mwt.com/english/klyamp_tl/ld4416.html

Uh, I just did a search and there's a small klystron on
EBay! Type Varian VA-317A/445A. I wonder what
frequency it is? :-)))

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 10. [ss] Re: ISP Proposal and Illegal operation

From: dubose@texas.net
Date: Thu, 5 Dec 2002 09:23:43 US/Central
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-109712-2002.12.05-10.08.46--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Good thoughts but they could be a bit misleading.

You make a valid point about the rise in temperature...but what we should be
concerned about is things such as raising the tempature of the viscus fluid
in the eye from 98.6 deg F to say 105 deg. F or higher.  This would
probably cause great pain in the eye and probably damage the eye if exposed a
long time to this temperature...altho I suspect that you would move away from
the radiation before you damaged your eye.

I reference eyes because W5DUU did research in that area.

There may be, probably are other parts of you anatomy that are harmed by the
rise in temperature; but, I don't know about them.

In all honesty, I would start getting concerned if the EIRP is over 10 watts
and you are about 1 ft away from the radiation source.

To cook a turkey (a 10-18 poind bird), you need to raise the temperature from
thawed temperature to 180 deg. F.  That takes a lot of energy.  To damage the
eye (1 cubic cm of viscus fluid about the same density as salt water), you need

to raise the temperature about 7 deg F.  That doesn't take all that much
energy.

Walt/K5YFW

>
> Cook food???
>
> An EIRP of 4000W means no such thing.
>
> You are still radiating a total of 4W. No more power
> magically comes from anywhere.
>
> If you put your christmas turkey in front of the dish,
> all 4W of it might go into the turkey, and, suprisingly
> enough, it might just about defrost, it would not cook.
> The XYL would not be impressed with dinner.
>
> So what's the difference compared to an omni dipole?
> It's just far more difficult to get all 4W into the turkey.
> Put it near the dipole and you might catch 0.4W. The
> rest goes off into space.
>
> To put this in context, the normal dissipation of a
> living human is around 300W, I'd guess a turkey
> when it's alive would be around 30W. Temperature
> at this dissipation is 37 deg. C, call that a rise of
> 20C above ambient. So 4W in a turkey might
> raise its temperature by 3 degrees maybe?
>
> Inmarsat-A ship-earth-station is 40W at 1.6GHz into
> 0.9m dish. No birds fell out of the sky.
>
> Although you wouldn't cook if you stood in front of
> 4000W EIRP, the field strength is not considered
> safe, so only use dead turkeys for this experiment...
>
> Ant M1FDE
>
> Ah, now if you put an 800W magnetron at the feed,
> that would be different. Now you're cooking with RF!
>
> What you need is one of these...
> http://www.nec-mwt.com/english/klyamp_tl/ld4416.html
>
> Uh, I just did a search and there's a small klystron on
> EBay! Type Varian VA-317A/445A. I wonder what
> frequency it is? :-)))
>
>
>
>
> ---
> You are currently subscribed to ss as: dubose@texas.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>



---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 11. [ss] Re: ISP Proposal and Illegal operation

From: Jeff King <jeff@aerodata.net>
Date: Thu, 5 Dec 2002 15:34:30 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-109738-2002.12.05-15.19.43--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Thu, 5 Dec 2002 18:58:16 +1100, Darryl Smith wrote:
>Yesterday the comment was made

Two different people you quoted. What I said was:

>>I would contact Ed Hare at the ARRL if they are interfering with
>>legitimate amateur operations.
>
>I would advise against getting the ARRL involved.

And then you further stated:

>If they are running too much power, contact the FCC, but don't
>mention you are a ham. Just a concerned citizen.

This is very poor advice. A "concerned citizen" has no grounds to complain with interference to their Part 15 device from another Part 15 user.

Further, having 100's of ham's with 100 different opinions calling the FCC about a complaint is also ill-advised.

Why not let the ARRL do the job we pay them money for? And that is to protect amateur interests.

> Lets face it - the 2.4
>GHz band is defacto secondary with the 802.11 commercial interests.

Not in the United States Darryl. Part 97 users do not have to accept interference from Part 15 users that stop communications. Here are the FCC rules:

http://wireless.fcc.gov/rules.html

Now, I am not in any way shape or form suggesting amateur's form death squads to hunt down errant baby monitors or put out a hit on the WLAN at the local Starbucks, but when a clear single source violation of Part 15 occurs AND it is interfering on a widespread basis with legitimate amateur communications, it is foolish not to do anything about it.

>If
>you fight that you will loose. Ham Radio will not win. There is a
>bigger national good at stake.

As the second TAPR board member to make such a similar statement, can you please clarify this. Are you aware of your board's position statement on spread spectrum?

http://www.tapr.org/tapr/html/ss.position.html

Is this statement still the position of the board, or am I to take you and another board members less the glowing support for amateur radio spread spectrum is the new norm?

>Kicking commercial users out of the airspace
>is bad publicity for us.

Asking users that are subordinate to Part 97 to comply with the law is bad publicity?!?  I think anything LESS then expecting people to obey the law and government to enforce that same law, is bad policy. It is also clear policy and something every citizen should expect. Now, if as some form of civil disobideince you are suggesting citizens violate Part 15 on a widespread basis, I'm most certainly liberal enough to be open to that as long as the reason is clear and the objective known.  Is that what you are suggesting here?

And in any case, "Part 15 users" by default are not commercial. They do not have licenses for the frequencies they use. The equipment is certified to the manufacturer, not the end users. The fact that some users are using the equipment for revenue producing means (such as WISP) is commendable, however on every part 15 device a "contract" is clearly spelled out. In that, a part 15 user may not cause interference to primary users and that a part 15 user must accept any and all interference.

>That is the worst thing we can do at the moment.

Please explain the above as I don't understand why rule compliance should be seasonal.

And in closing, I hope you don't cut and run like the other board member did that made a similar statement. I have supported TAPR for 18 years and as member, I think I have a right to know what this organization, or its board members, actually support. I was a heavy contributor to the TAPR STA and had hoped more would come of it.

-Jeff

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## 12. [ss] RE: ss digest: December 05, 2002

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Fri, 6 Dec 2002 19:41:17 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-109784-2002.12.06-03.26.58--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

G'Day All...

Re: 4000w eirp...

Well, in most cases the sun does not cause paper to burn. But with a
magnifying glass it will. And antenna is just a lens for RF energy


>>If they are running too much power, contact the FCC, but don't mention

>>you are a ham. Just a concerned citizen.
>
>This is very poor advice. A "concerned citizen" has no grounds to=
complain
>with interference to their Part 15 device from another Part 15=  user.

Look on the back of a YDI amp... It says that it complies with PART 15,
WHEN PART OF A CERTIFIED SYSTEM. When was the last time you saw a system
run with an amp be a CERTIFIED SYSTEM?

Add Amp - Not Certified
Not Certified - Not part 15
Not part 15 - Operating illegally.

I believe that ANYONE can complain about an unlicensed transmitter.
Unless the antenna and amplifier are certified as a complete system as
being part 15, then this transmitter is not part 15.

>>Kicking commercial users out of the airspace
>>is bad publicity for us.
>policy and something every citizen should expect. Now, if as some=
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>civil disobideince you are suggesting citizens violate Part 15 on=  a
>widespread basis, I'm most certainly liberal enough to be open to=
that as
>long as the reason is clear and the objective known.  Is that=  what
you are
>suggesting here?

How can I put this? I am suggesting that a PART 15 device that is
operating legally should not be made to shut down by a PART 97 operator
because he does not like the small increase in the noise floor on the
local FM repeater.

What can be worse for Ham Radio than an operator who goes to court to
tell his neighbours they cannot use equipment that they legally
purchased. That they cannot use their portable phones, VCR extenders,
Bluetooth Devices, 802.11 cards. This is not good for the hobby...

Lets think about it... A local ham tells the local water company to stop
the operation of it's remote operated pumping station. How would you
react if you saw a newspaper headline like

        "Sewer Overflows thanks to HAM"

        Local Ham WB1ABCD took the XYZ sewers
        to court in a bid to stop them using
        their new sewer pumping station and won.
        The court ordered that they immediately
        turn off the remotelty controlled pumping
        station as it was alleged that a transmitter
        at the site interfered with the Hams
        experiemental TV station.

> As a result of this, and the recent rain,
> the sewers have overflowed causing environmental
> damage....

THIS WILL HAPPEN. Everyone is starting to use 2.4 GHz. Part 15 is effectively joint secondary at the moment, and will get that official.

In my view, part 15 and part 97 need to coexist. Part 97 and unlicenced (Illegal power amps etc) do not need to coexist. Realistically because of 802.11 in the USA, Ham Radio I personally believe that PRIMARY status of 2.4 GHz in the USA is in real danger. I believe that in the next 12-18 months the USA will have 2.4 GHz joint primary or joint secondary with 802.11 and other ISM users.

By enforceing Part 97 to the detriment of part 15, I believe that there is a danger that this downgrading of the 2.4 GHz spectrum will actually loose 2.4 GHz. There are VERY BIG COMPANIES that believe that 802.11 is a way to go, and they spend a whole lot more on lobying in Washington DC than ARRL, TAPR or any other Ham Radio group.

>>If you fight that you will loose. Ham Radio will not win. There is a
>>bigger national good at stake.
>As the second TAPR board member to make such a similar statement,= can
you
>please clarify this. Are you aware of your board's position= statement
on
>spread spectrum?
>
>http://www.tapr.org/tapr/html/ss.position.html

I FULLY SUPPORT THE USE OF AMATEUR RADIO SPREAD SPECTRUM FROM DC TO DAYLIGHT. I SUPPORT IT ON LF, HF, VHF, MICROWAVE, INFRARED. As soon as morse gets abolished here in Oz, I plan to start playing spread spectrum on HF.

I did my electrical engineering thesis on it. I LOVE SPREAD SPECTRUM. As far as I know that statement is still the position of the board. It was made before I was elected, but I fully support it. When that was written, the position of TAPR was that it supported spread spectrum on amateur frequencies. I have not seen anything showing me that the view of TAPR has changed.

>>That is the worst thing we can do at the moment.
>Please explain the above as I don't understand why rule= compliance
should be
>seasonal.

Because the eyes of Washington are on us as hams... Whatever we do will make an impact. We do not have the lobying power of the wireless community groups.... Imagine the power of Microsoft, Cisco, Sprint, Verizon etc. Think the Little Leo and multiply things by 1000.

>From memory I believe that there is a proposal in Washington for more spectrum arround 2.4 GHz. Whilst this is being done it would not take too much to change the 2.4 GHz amateur allocation.

>And in any case, "Part 15 users" by default are not commercial.= They
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>have licenses for the frequencies they use. The equipment is=
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>manufacturer, not the end users. The fact that some users are= using
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>on every part 15 device a "contract" is clearly spelled out. In= that,
a part
>15 user may not cause interference to primary users and that a= part
15 user
>must accept any and all interference.

Fine, but if we are not careful we will not be primary for long.

>And in closing, I hope you don't cut and run like the other board=
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>that made a similar statement. I have supported TAPR for 18 years= and
as
>member, I think I have a right to know what this organization, or= its
board
>members, actually support. I was a heavy contributor to the TAPR= STA

and had
>hoped more would come of it.

I cannot speak for other members of the board, or for the board itself.
I will tend not to run, except when I get into a flame war, and feel
that it is time to stop that. I don't know if you or anyone else has
noticed it, but I put my mobile phone number on the bottom of every
email with my email address. I want to be accessable. Just remember the
time difference...

Darryl

---------
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

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## 13. [ss] RE: ss digest: December 05, 2002

From: Jeff King <jeff@aerodata.net>
Date: Fri, 06 Dec 2002 12:30:34 -0600 (CST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-109823-2002.12.06-13.15.39--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Darryl:

It would really be nice if you would read my responses as well as the question
that illicited this thread. But let me give you a thumbnail summary of who we
got where we got.

The complaintant was a licensed amateur radio operator, not a "concerned
citizen". The violator was a WISP running in excess of Part 15 limits with non
certified equipment. No where was it stated or implied that hams should chase
after baby monitors, public utilties or portable phones.

It also would be helpful for you to STOP rolling multiple people's qoutes,
uncited, into your replies. At least qoute the sources if you must reply to
multiple people's messages in a single one.

Now, we do agree on one thing, abiet on opposite sides. It was stated regarding
complaining to the FCC/ARRL about rule violations:

> >>That is the worst thing we can do at the moment.

> >Please explain the above as I don't understand why rule  compliance
> >should be  seasonal.

> Because the eyes of Washington are on us as hams... Whatever we do
> will
> make an impact. We do not have the lobying power of the wireless
> community groups.... Imagine the power of Microsoft, Cisco, Sprint,
> Verizon etc. Think the Little Leo and multiply things by 1000.

Yes, we do agree the eyes of Washington are on hams. If we sit by, and let
blatent rule violators take over our bands, in full view of the regulators,
then this will become the norm. Part 97 are primary over part 15 and the rule
of the land should mean something, even to the MicroSoft's that you seem to
feel we should run scared from. Is rolling over and letting people walk all
over you the impact you wish to make in life?

And as I CLEARLY stated before, I am against hams forming death squads to track
down baby monitors, portable phones and firebombing the local utilties. What I
am saying is that it is foolish to standby while clear rule violations are
taking place in part 15 AND those same rule violations are disrupting
legitimate amateur communications. Part 15 users and hams CAN and SHOULD get
along together. But this is a two way steet and the only time I am aware of
that hams pushed back was when the Part 15 WISP was completely uncooprative
(tried to claim he was running his ISP under Part 18). Most WISP's are more
then willing to work with ham's to resolve problems. But you statement of
contacting the FCC before the ARRL takes all chance of working things out
without goverment involvement out of the picture. I think the FCC should only
be involved as a last resort.

How more clearly can I state this?

-Jeff

Quoting Darryl Smith <Darryl@radio-active.net.au>:

> G'Day All...
>
> Re: 4000w eirp...
>
> Well, in most cases the sun does not cause paper to burn. But with a
> magnifying glass it will. And antenna is just a lens for RF energy
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> >>If they are running too much power, contact the FCC, but don't
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> Look on the back of a YDI amp... It says that it complies with PART
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> Add Amp - Not Certified
> Not Certified - Not part 15
> Not part 15 - Operating illegally.
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> I believe that ANYONE can complain about an unlicensed transmitter.
> Unless the antenna and amplifier are certified as a complete system as
> being part 15, then this transmitter is not part 15.
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> How can I put this? I am suggesting that a PART 15 device that is
> operating legally should not be made to shut down by a PART 97
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> local FM repeater.
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> What can be worse for Ham Radio than an operator who goes to court to
> tell his neighbours they cannot use equipment that they legally
> purchased. That they cannot use their portable phones, VCR extenders,
> Bluetooth Devices, 802.11 cards. This is not good for the hobby...
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> Lets think about it... A local ham tells the local water company to
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>       "Sewer Overflows thanks to HAM"
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>       Local Ham WB1ABCD took the XYZ sewers
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>       The court ordered that they immediately
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>       at the site interfered with the Hams
>       experiemental TV station.

>
>       As a result of this, and the recent rain,
>       the sewers have overflowed causing environmental
>       damage....
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> effectively joint secondary at the moment, and will get that official.
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> In my view, part 15 and part 97 need to coexist. Part 97 and
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> (Illegal power amps etc) do not need to coexist. Realistically because
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> >As the second TAPR board member to make such a similar statement,=
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> a part
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> >must accept any and all interference.
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>
> >And in closing, I hope you don't cut and run like the other board=
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>
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> email with my email address. I want to be accessable. Just remember
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> time difference...
>
> Darryl
>
> ---------
> Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
> Mobile Number 0412 929 634 [+61 4 12 929 634 International]
> Darryl@radio-active.net.au | www.radio-active.net.au
>
>
>
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> You are currently subscribed to ss as: jeff@aerodata.net
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>
>

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You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 14. [ss] Re: ISP Proposal and Illegal operation

From: "Hare,Ed, W1RFI" <w1rfi@arrl.org>
Date: Fri, 6 Dec 2002 15:48:49 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-109837-2002.12.06-15.33.48--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>> I would contact Ed Hare at the ARRL if they are interfering with
>> legitimate amateur operations.

> I would advise against getting the ARRL involved.

>From what you say, it doesn't appear that you are specifically criticizing ARRL, but rather implying that filing complaints against Part 15 operation is not a good idea. I will address my comments in that direction.

> Lets face it - the 2.4 GHz band is defacto secondary with the 802.11 commercial interests.

Not by my read of Part 15, Darryl.  There is a pretty clear "pecking order" on 2.4 GHz, with ISM on the top, Amateur in the middle and Part 15 on the bottom.  Part 15 operates subject to two major requirements:  The manufacturers of equipment need to meet the Certification requirements for their equipment and continue to manufacture it to those requirements and the users of that equipment must operate in a way that does not cause harmful interference to primary users. There is no defacto secondary anything about this.

When these matters come up as rulemaking, ARRL, other groups and individuals often file comments with the FCC about the probabilty of harmful interference. The answer is often a variation of "the existing

rules have a provision that says that if harmful interference occurs, the operator of the device must unconditionally correct the interference. How much more protection do you want than absolute." With reluctance, I can accept this, IF the FCC will enforce the rules as written.

Your post implies that they will not, but I disagree at least in part, based on personal experience. For example, the FCC has been very active enforcing power-line interference cases. There are no specific limits for incidental emitters (power lines, motors, etc.), but only a requirement not to cause harmful interference. The Commission has been willing to address the issue on that basis, not caving in even when one of the utility companies had their lawyer draft an answer that said, "we are not allowed to interere with a radio service, but amateur radio doesn't sell any services, so we can interfere." (Honest! They really said that.) Darwin Networks' 2.4 GHz WISP operation was interfering with an amateur repeater in Texas; the FCC wrote a letter asking them how they intended to address the interference. ARRL has also helped expidite a few cases of interference to hams from various Part 15 equipment in neighbor's homes or businesses.

> If you fight that you will loose. Ham Radio will not win. There is a bigger national
> good at stake. Kicking commercial users out of the airspace is bad publicity for us.
> That is the worst thing we can do at the moment.

I can hardly imagine anything more irresponsible and defeatist to say. The national good of the Amateur Radio Service is a valid and valuable national resource. The Commission well understands the need for legitimate amateur interests and operation to be protected. The wireless industry has taken off in a way that I don't think anyone has envisioned and it may very well need its own spectrum, but the ISM bands are not the place for that spectrum, IHMO. No other operation in the ISM bands is offered any protection from the operation of an ISM device; that microwave oven in my neighbor's home can cause me all the RFI it wants. The potential for emissions from ISM devices within the ISM band is unlimited and one very high powered ISM device in a city could take out chunks of spectrum. This is NOT prime real estate and for the ISM band alone, 2.4-2.483.5 GHz is NOT the right place for any protected radio operation. (It is not the right place for ham radio, either, but I think it is the best we are gonna' get -- microwave ovens and all.)

And in the meantime, as evidenced by facts, not conjecture, amateur radio can win. It needs to approach these things in a socially and legally responsible way, though.

I can envision two valid reasons for seeking FCC intervention. The first should be obvious -- an operation that us using more power and/or antenna gain than what is permitted by Part 15 is a legitimate reason for complaint. The FCC will not back a Part 15 operator that is flouting FCC law. They may be reluctant to spend their staff time on a complaint that has no harmful interference, but if they investigate a complaint, they are not going to tell the miscreant that it is okay to break the rules. The Commission is well aware that the existing rules -- designed to minimize the likelihood of widespread harmful interference -- have a significant interfernce potential for nearby primary users. One watt and 6 dBi antenna gain is already high enough, thank you, and if someone is exceeding that, the interference potential is all the higher. This one is difficult to identify, though, because it is almost impossible for the other spectrum users (ie, us) to make field measurements that will identify rules violations.

Even so, do I recommend running to the FCC with these complaints? No, I do not. I recommend that the operator of the system that may be operating outside Part 15 be contacted politely, a brief description of the rules be offered and give them every opportunity to correct the problem on their own. That is exactly what happened in a recent California case involving a 74-mile link, and once the operator realized what mistake had been made, they reduced the power to a legal level.

In taking this first voluntary cooperation step, many of the cases will be corrected, amateur radio will develop better communication with local Part 15 operators and the reputation of amateur radio will be enhanced, not diminished.

The same approach should be used wrt harmful interference. These cases should not go directly to the FCC. The Part 15 operator may not be aware that his operation is causing interference. At least some cases will resolve themselves that way and scarce FCC resources can be saved for those cases where only FCC intervention will work. This is the approach ARRL has used with power-line cases for a few years now -- first the ham tries to resolve it directly with the power company, then the ARRL will try to help by writing a letter to the CEO under our cooperative agreement with the FCC. If all that fails, the FCC is then willing to help, but behind each of those FCC letters is often tens of hours of the amateurs' and/or ARRL HQ staff time.

In trying to resolve these problems directly first, with or without ARRL help, the amateurs strengthen their case to ask the FCC for help. It has been my experience so far that the FCC has helped, although this may well be due to Riley's dedication to his assigned duties to do enforcment involving the amateur radio service. These cases will involve people other than Riley and those waters haven't been fully tested. But tested they must be, because if the answer to amateur radio concerns is always going to be "they are not allowed to interfere," if that will not be backed up with FCC action, this must be determined.

I have saved the subject of harmful interference for last. All of the above words are premised on the fact that harmful interference is occuring. Harmful interference has a specific regulatory definition. It is either any disruption of emergency communications or the repeated disruption of other communications. We cannot expect the FCC to act unless there is demonstrable harmful interference. What is is? It may be in the eye of the beholder, but like many things in life, it is possible to know it when you see it. The power line cases we have taken to the Commission have involved at least S6 level

interference on entire ham bands.  I think that a "strong" signal, to use the meaning of S6, is harmful interference. Would an SS Part signal that raised a noise floor by a dB or so be harmful interference? Probably not, and I wouldn't recommend taking that one to the FCC.  Those cases for which any FCC action might be sought -- especially the first ones -- need to be clear-cut and clean, with reasonable conduct by the amateur as a major requirement. (The ham who has been arrested for trying to cut down  the Part 15 tower need not apply!)

What about hearing those Part 15 signals in our band?  At CCSU, a local college, the level outside one of the buildings was S9.  Is that harmful interference. Not at the time.  I was listening for Part 15 signals, not engaged in a legitimate amateur operation.  Merely hearing a Part 15 signal in our band is not harmful interference and we have no recourse -- or grievance.  Amateur radio is secondary to commerical users on 30 meters and the military on 70 cm.  How would we feel if they said "we can hear those hams in our bands, so they gotta' get out."  We need to base our interference complaints to Part 15 operators on real harmful interference and be especially certain that we take only clear cases to the FCC.

In general, ARRL wants hams to try to resolve these problems directly with the Part 15 operator first. From there, we will follow the recommendation of the involved hams on how to proceed. They are, after all, the ones most familar with the problem and the personalities and companies involved. If they feel a letter from ARRL to the company or individual will help, we are glad to do it. (And the letters are reasonable, respectful, helpful, but firm in our committment to ensuring that harmful interference doesn't occur).  We can also expidite getting cases to the FCC, usually through the FCC national offices. In the cases that go to Riley, he relies heavily on our determination that harmful interference is occuring and there is enough indication that the responsible party has been correctly identified to warrant an FCC letter. I hate to see these things go to the field offices first, unless a ham has a good working relationship with that office. I have seen field office decisions all over the map and some have not been favorable to ham radio.

Is ARRL batting 1000?  Nope, but the successes have been well worth the doing.  I do not approach this work with a defeatist attitude because there is a responsible -- and effective -- way to make realistic and reasonable requests of the Part 15 operators and the FCC.

I hope my explanation is useful.

73,
Ed Hare, W1RFI
ARRL Lab
225 Main St
Newington, CT 06111
Tel: 860-594-0318
Internet: w1rfi@arrl.org
Web: http://www.arrl.org/tis
>

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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 15. [ss] Cooking food with high EIRP?

From: "Hare,Ed, W1RFI" <w1rfi@arrl.org>
Date: Fri, 6 Dec 2002 15:51:42 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-109838-2002.12.06-15.36.43--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> YDI is selling a 1 Watt amp, which they suggest can be used
> with a 24db antenna which they say can go 80 miles - which is
> only 200W  EIRP. And this is the most powerful amp I could find there.

A 24 dB antenna would have to have no more than a 500 milliwatt transmitter.  See below.

> The value of 4W seems to be suspcious... I suspect that it is 4W eirp,
> with a 30db Gain antenna. 4W with a 30db gain antenna would
> mean a EIRP of 4000W, which is so far outside the realms of the legality
> that it is not funny.

Not necessarily in the US.  Part 15 says that a 2.4 GHz SS transmitter can use 1 watt and a 6 dBi gain antenna.  The power must be reduced by 1 dB for every 3 dB that the antenna gain exceeds 6 dBi. In theory, the EIRP could be unlimited, although before 4 kW EIRP was reached, the practical limit of antenna size would be reached. (On the 5 GHz band, no such requirement to reduce power for antenna gain exists, to EIRP's can easily be 4 kW or more).

> Basically I doubt that the ISP is running that much power. If they do
> they can cook food... And I am sure that the FCC would have people
> calling up about a strange heating....

Not true.  That EIRP is a far-field phenomenon.  It simply will not be acheived in the near field of an antenna.  I would have to run the math, but a good rule of thumb is that the power density in the aperture of a large dish cannot exceed 4 times the applied power divided by the area of the dish (if

properly illuminated, that power is spread pretty uniformly across the aperture.)  A 30 meter (3000 centimeter) dish has an aperture area of 28,260,000 square centimeters. If you apply 1000 watts (1000000 milliwatts) to that dish, the maximum field present right in the plane of the aperture will not exceed ~0.25 milliwatts/cm^2. This is well below the legal limit of exposure on 2.4 GHz, so you could stand in the plane of the aperture for all time!

Gotta' be careful tossing around claims about RF safety, because a bit of careful analysis usually shows that RF safety is not an issue. It is almost impossible for a Part 15 device to exceed the FCC limits. It is nearly as hard for an amateur, even running 1000 watts to a 30-meter dish! :-)

73,
Ed Hare, W1RFI
ARRL Lab
225 Main St
Newington, CT 06111
Tel: 860-594-0318
Internet: w1rfi@arrl.org
Web: http://www.arrl.org/tis

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---
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## 16. [ss] Magazine Roundup - Circuit Cellar Inc - December 2002.

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Sat, 7 Dec 2002 10:49:39 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-109848-2002.12.06-18.34.59--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Circuit Cellar Inc (December 2002) - www.circuitcellar.com - has done
their latest issue on WIRELESS COMMUNICATIONS

Articles include

        Wireless Data Acquisition using Bluetooth

        Interfacing with Frequency Synthesizers

        Vector SoC - 1 GHz Vectorial Network Analyzer

        Wireless Temperature Sensors - based on the Microchip RFpic IC
series.

        Smart RF Debugging - using SS modems in projects

For those that are not aware of Circuit Cellar magazine you may be
surprised to know that all the articles listed above include circuit
diagrams and usually have links to code. From the information in the
articles you can actually build the stuff. I would love to build the 1
GHz Vectorial Network Analyser - and then hack it to 2.5 GHz...

Darryl

---------
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

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## 17. [ss] RE: Cooking food with high EIRP?

From: "Hare,Ed, W1RFI" <w1rfi@arrl.org>
Date: Fri, 6 Dec 2002 19:04:48 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-109853-2002.12.06-18.49.49--lyris.ss#tapr.org@lists.tapr.org>

Rendered body type: text/plain

>Not true.  That EIRP is a far-field phenomenon.  It simply will not be acheived
> in the near field of an antenna.  I would have to run the math, but a good rule of
> thumb is that the power density in the aperture of a large dish cannot exceed 4
> times the applied power divided by the area of the dish (if properly illuminated,
> that power is spread pretty uniformly across the aperture.)  A 30 meter (3000
> centimeter) dish has an aperture area of 28,260,000 square centimeters. If you
> apply 1000 watts (1000000 milliwatts) to that dish, the maximum field present
> right in the plane of the aperture will not exceed ~0.25 milliwatts/cm^2. This is
> well below the legal limit of exposure on 2.4 GHz, so you could stand in the
> plane of the aperture for all time!

> Gotta' be careful tossing around claims about RF safety, because a bit of
> careful analysis usually shows that RF safety is not an issue. It is almost
> impossible for a Part 15 device to exceed the FCC limits.  It is nearly as
> hard for an amateur, even running 1000 watts to a 30-meter dish! :-)

Gotta' be REAL careful. I am sure some astute soul will pick up the fact that my calculations were for a
 30-foot radius dish, not the implied 30-foot diameter dish. I also made an error in the power density.
If the dish were 60 meters across (one big dish, eh), the power density would be about 0.14 mw/cm^2. For
 a 30-foot dish, it would be ~0.56 mw/cm^2. Sorry about the confustion. Let's call it a brain spasm. :-)

But my error does demonstrate an interesting point. The strength of the near field is greater for the
smaller dish!  This applies on HF, too -- very near a small loop, the fields will be much higher than
very near a halfwave dipole.  Very near a very large antenna, such as a rhombic, the fields are smaller
yet.  The reason is fairly intuitive, of course. When you are near that small loop, you are near all of
the antenna but when you are near the rhombic, most of the antenna is very far away, so your exposure
comes from only part of the energy applied to the antenna.  In the far field, all points of the antenna
contribute equally, so they all add up.  And, yes,  the fields can be stronger farther away than they
are up close!  Ain't near fields wonderful.

At any rate, now that I have corrected my faux pas, and made some lemonade with it, I think it best not
to discuss this farther in the SS reflector, so this will be my final. If anyone wants to steer it back
to RF exposure from the current spate of SS devices, or even a 100-watt transmitter on a frequency where
 SS is legal, then it may be appropriate, but I think that I have gotten a bit off topic, so I will not
pursue this one here.

73,
Ed, W1RFI
.

## 18. [ss] Re: Cooking food with high EIRP?

From: Lawrence Stoskopf <stoskopf@tri.net>
Date: Fri, 06 Dec 2002 20:47:47 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-109868-2002.12.06-21.32.52--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

But I do remember about 1957 seeing at Kansas State's Engineering Open
House someone cooking a hot dog over the end of an open waveguide right
out of some sort of surplus RF generator.  Wasn't sophisticated enough
at the time to do anything but say, "WOW!"

N0UU

> Gotta' be careful tossing around claims about RF safety, because a bit of careful analysis usually
shows that RF safety is not an issue. It is almost impossible for a Part 15 device to exceed the FCC
limits.  It is nearly as hard for an amateur, even running 1000 watts to a 30-meter dish! :-)

---
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## 19. [ss] Re: ISP Proposal and Illegal operation

From: "Steve Stroh" <lists@strohpub.com>
Date: Fri, 6 Dec 2002 21:14:19 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-109880-2002.12.07-00.01.06--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Ed:

I'm speaking for myself - not TAPR.

>From a purely pro-Amateur Radio point of view, your insights are entirely
valid, and I think that they're probably shared by the majority of US
Amateur Radio operators.

I think that a "tippling point" has been reached sometime earlier this year, brought on by the million-plus Wi-Fi devices shipping per month (and that rate is accelerating)... almost ALL intended for 2.4 GHz. Even when 802.11a devices start to ship in quantity next year, the most popular Wi-Fi systems will be dual band / dual mode - 802.11b (2.4 GHz / DSSS), 802.11g (2.4 GHz / OFDM), and 802.11a (5.8 GHz / OFDM). It's unlikely that 2.4 GHz Wi-Fi devices will ever stop shipping.

How much longer will Amateur Radio operations in 2.4 GHz such as ATV, high-power 802.11b, and Amateur Radio "cease and desist" requests / demands to Part 15 users be viewed as a public good rather than a public detriment? No less an authority than former FCC Chairman Reed Hundt has stated the latter in presentations this year (to audiences that include senior FCC officials)- that Amateur Radio operations should be banned from 2.4 GHz, or at a minimum, Amateur Radio complaints of interference from Part 15 operations be summarily dismissed.

The reality is that the VAST popular (and industry) perception is that Wi-Fi operations are the highest and best use of 2.4 GHz band. Just TODAY there was an announcement of a consortium that intends to deploy a vast network of Wi-Fi HotSpots nationally. This level of investment gets serious attention when the wireline telecom industry is in such dire straits, and serves to highlight how important Wi-Fi has become to government, FCC, industry, and the public as a whole.

I'm not arguing that 2.4 GHz is the optimum spectrum for such a popular service, or that Wi-Fi is the optimum technology. But such arguments are largely irrelevant. Wi-Fi on 2.4 GHz is "the hottest thing going" in the computer and telecommunications industry... and it's ill advised to try to stop or divert that trend.

Amateur Radio is only one of many licensed services that will inevitably be crying "Not OUR spectrum!!!" as the FCC reorients the priorities of spectrum allocation to better reflect the use of advanced wireless technologies and much greater use of license-exempt systems.

If Amateur Radio's leadership looks at the situation on 2.4 GHz the LEAST bit objectively, I would hope it would conclude that "go gracefully, on OUR terms" may well be a better course of action than the defiant stance of "We're PRIMARY! Hear that- WE'RE PRIMARY!" Embarking now on a "Go gracefully, on OUR terms" effort just may preserve Amateur Radio enough "bargaining power" to retain some 2.4 GHz privileges for space operations and other modes that don't materially impact Part 15 usage of 2.4 GHz.

If not, I fully expect that Amateur Radio will lose all its unique privileges in the 2.4 GHz band; perhaps retaining defacto privileges whose technical parameters are the same as Part 15 users.

Thanks,

Steve N8GNJ

--
Steve Stroh  steve@strohpub.com  425-481-0600

> -----Original Message-----
> From: bounce-ss-24593@lists.tapr.org
> [mailto:bounce-ss-24593@lists.tapr.org]On Behalf Of Hare,Ed, W1RFI
> Sent: Friday, December 06, 2002 12:49
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: ISP Proposal and Illegal operation
>
>
> >> I would contact Ed Hare at the ARRL if they are interfering with
> >> legitimate amateur operations.
>
> > I would advise against getting the ARRL involved.
>
> From what you say, it doesn't appear that you are specifically
> criticizing ARRL, but rather implying that filing complaints
> against Part 15 operation is not a good idea. I will address my
> comments in that direction.
>
> > Lets face it - the 2.4 GHz band is defacto secondary with the
> 802.11 commercial interests.
>
> Not by my read of Part 15, Darryl.  There is a pretty clear

> "pecking order" on 2.4 GHz, with ISM on the top, Amateur in the
> middle and Part 15 on the bottom.  Part 15 operates subject to
> two major requirements:  The manufacturers of equipment need to
> meet the Certification requirements for their equipment and
> continue to manufacture it to those requirements and the users of
> that equipment must operate in a way that does not cause harmful
> interference to primary users. There is no defacto secondary
> anything about this.
>
> When these matters come up as rulemaking, ARRL, other groups and
> individuals often file comments with the FCC about the probabilty
> of harmful interference. The answer is often a variation of "the
> existing rules have a provision that says that if  harmful
> interference occurs, the operator of the device must
> unconditionally correct the interference.  How much more
> protection do you want than absolute."  With reluctance, I can
> accept this, IF the FCC will enforce the rules as written.
>
> Your post implies that they will not, but I disagree at least in
> part, based on personal experience.  For example, the FCC has
> been very active enforcing power-line interference cases.  There
> are no specific limits for incidental emitters (power lines,
> motors, etc.), but only a requirement not to cause harmful
> interference.  The Commission has been willing to address the
> issue on that basis, not caving in even when one of the utility
> companies had their lawyer draft an answer that said, "we are not
> allowed to interere with a radio service, but amateur radio
> doesn't sell any services, so we can interfere." (Honest! They
> really said that.) Darwin Networks' 2.4 GHz WISP operation was
> interfering with an amateur repeater in Texas; the FCC wrote a
> letter asking them how they intended to address the interference.
>  ARRL has also helped expidite a few cases of interference to
> hams from various Part 15 equipment in neighbor's homes or businesses.
>
> > If you fight that you will loose. Ham Radio will not win. There
> is a bigger national
> > good at stake. Kicking commercial users out of the airspace is
> bad publicity for us.
> > That is the worst thing we can do at the moment.
>
> I can hardly imagine anything more irresponsible and defeatist to
> say. The national good of the Amateur Radio Service is a valid
> and valuable national resource.  The Commission well understands
> the need for legitimate amateur interests and operation to be
> protected.  The wireless industry has taken off in a way that I
> don't think anyone has envisioned and it may very well need its
> own spectrum, but the ISM bands are not the place for that
> spectrum, IHMO. No other operation in the ISM bands is offered
> any protection from the operation of an ISM device; that
> microwave oven in my neighbor's home can cause me all the RFI it
> wants.  The potential for emissions from ISM devices within the
> ISM band is unlimited and one very high powered ISM device in a
> city could take out chunks of spectrum.  This is NOT prime real
> estate and for the ISM band alone, 2.4-2.483.5 GHz is NOT the
> right place for any protected radio operation. (It is not the
> right place for ham radio, either, but I think it is the best we
> are gonna' get -- microwave ovens and all.)
>
> And in the meantime, as evidenced by facts, not conjecture,
> amateur radio can win.  It needs to approach these things in a
> socially and legally responsible way, though.
>
> I can envision two valid reasons for seeking FCC intervention.
> The first should be obvious -- an operation that us using more
> power and/or antenna gain than what is permitted by Part 15 is a
> legitimate reason for complaint.  The FCC will not back a Part 15
> operator that is flouting FCC law.  They may be reluctant to
> spend their staff time on a complaint that has no harmful
> interference, but if they investigate a complaint, they are not
> going to tell the miscreant that it is okay to break the rules.
> The Commission is well aware that the existing rules -- designed
> to minimize the likelihood of widespread harmful interference --
> have a significant interfernce potential for nearby primary
> users. One watt and 6 dBi antenna gain is already high enough,
> thank you, and if someone is exceeding that, the interference
> potential is all the higher.  This one is difficult to identify,
> though, because it is almost impossible for the other spectrum
> users (ie, us) to make field measurements that will identify
> rules violations.

>
> Even so, do I recommend running to the FCC with these complaints?
>  No, I do not.  I recommend that the operator of the system that
> may be operating outside Part 15 be contacted politely, a brief
> description of the rules be offered and give them every
> opportunity to correct the problem on their own. That is exactly
> what happened in a recent California case involving a 74-mile
> link, and once the operator realized what mistake had been made,
> they reduced the power to a legal level.
>
> In taking this first voluntary cooperation step, many of the
> cases will be corrected, amateur radio will develop better
> communication with local Part 15 operators and the reputation of
> amateur radio will be enhanced, not diminished.
>
> The same approach should be used wrt harmful interference. These
> cases should not go directly to the FCC. The Part 15 operator may
> not be aware that his operation is causing interference.  At
> least some cases will resolve themselves that way and scarce FCC
> resources can be saved for those cases where only FCC
> intervention will work. This is the approach ARRL has used with
> power-line cases for a few years now -- first the ham tries to
> resolve it directly with the power company, then the ARRL will
> try to help by writing a letter to the CEO under our cooperative
> agreement with the FCC. If all that fails, the FCC is then
> willing to help, but behind each of those FCC letters is often
> tens of hours of the amateurs' and/or ARRL HQ staff time.
>
> In trying to resolve these problems directly first, with or
> without ARRL help, the amateurs strengthen their case to ask the
> FCC for help.  It has been my experience so far that the FCC has
> helped, although this may well be due to Riley's dedication to
> his assigned duties to do enforcment involving the amateur radio
> service.  These cases will involve people other than Riley and
> those waters haven't been fully tested. But tested they must be,
> because if the answer to amateur radio concerns is always going
> to be "they are not allowed to interfere," if that will not be
> backed up with FCC action, this must be determined.
>
> I have saved the subject of harmful interference for last. All of
> the above words are premised on the fact that harmful
> interference is occuring.  Harmful interference has a specific
> regulatory definition. It is either any disruption of emergency
> communications or the repeated disruption of other
> communications. We cannot expect the FCC to act unless there is
> demonstrable harmful interference.  What is is? It may be in the
> eye of the beholder, but like many things in life, it is possible
> to know it when you see it.  The power line cases we have taken
> to the Commission have involved at least S6 level interference on
> entire ham bands.  I think that a "strong" signal, to use the
> meaning of S6, is harmful interference. Would an SS Part signal
> that raised a noise floor by a dB or so be harmful interference?
> Probably not, and I wouldn't recommend taking that one to the
> FCC.  Those cases for which any FCC action might be sought --
> especially the first ones -- need to be clear-cut and clean, with
> reasonable conduct by the amateur as a major requirement. (The
> ham who has been arrested for trying to cut down  the Part 15
> tower need not apply!)
>
> What about hearing those Part 15 signals in our band?  At CCSU, a
> local college, the level outside one of the buildings was S9.  Is
> that harmful interference. Not at the time.  I was listening for
> Part 15 signals, not engaged in a legitimate amateur operation.
> Merely hearing a Part 15 signal in our band is not harmful
> interference and we have no recourse -- or grievance.  Amateur
> radio is secondary to commerical users on 30 meters and the
> military on 70 cm.  How would we feel if they said "we can hear
> those hams in our bands, so they gotta' get out."  We need to
> base our interference complaints to Part 15 operators on real
> harmful interference and be especially certain that we take only
> clear cases to the FCC.
>
> In general, ARRL wants hams to try to resolve these problems
> directly with the Part 15 operator first.  From there, we will
> follow the recommendation of the involved hams on how to proceed.
> They are, after all, the ones most familar with the problem and
> the personalities and companies involved. If they feel a letter
> from ARRL to the company or individual will help, we are glad to
> do it. (And the letters are reasonable, respectful, helpful, but

> firm in our committment to ensuring that harmful interference
> doesn't occur).  We can also expidite getting cases to the FCC,
> usually through the FCC national offices. In the cases that go to
> Riley, he relies heavily on our determination that harmful
> interference is occuring and there is enough indication that the
> responsible party has been correctly identified to warrant an FCC
> letter. I hate to see these things go to the field offices first,
> unless a ham has a good working relationship with that office. I
> have seen field office decisions all over the map and some have
> not been favorable to ham radio.
>
> Is ARRL batting 1000?  Nope, but the successes have been well
> worth the doing.  I do not approach this work with a defeatist
> attitude because there is a responsible -- and effective -- way
> to make realistic and reasonable requests of the Part 15
> operators and the FCC.
>
> I hope my explanation is useful.
>
> 73,
> Ed Hare, W1RFI
> ARRL Lab
> 225 Main St
> Newington, CT 06111
> Tel: 860-594-0318
> Internet: w1rfi@arrl.org
> Web: http://www.arrl.org/tis

---
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## 20. [ss] Re: ISP Proposal and Illegal operation

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Sat, 7 Dec 2002 16:40:52 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-109886-2002.12.07-00.26.13--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Jeff King <jeff@aerodata.net> wrote.

>> Because the eyes of Washington are on us as hams... Whatever we do
>> will make an impact. We do not have the lobying power of the wireless
>> community groups.... Imagine the power of Microsoft, Cisco, Sprint,
>> Verizon etc. Think the Little Leo and multiply things by 1000.
>
>
>Yes, we do agree the eyes of Washington are on hams. If we sit by, and
let
>blatent rule violators take over our bands, in full view of the
regulators,
>then this will become the norm. Part 97 are primary over part 15 and
the rule
>of the land should mean something, even to the MicroSoft's that you
seem to
>feel we should run scared from. Is rolling over and letting people walk
all
>over you the impact you wish to make in life?

I belive that the story of the Tar Baby is a USA fairy tale... About how
more the brair fox from memory strugled, the more they got stuck. By
enforcing part 97 TO THE LETTER OF THE LAW, I believe we run the risk of
loosing primary

>And as I CLEARLY stated before, I am against hams forming death squads
to track
>down baby monitors, portable phones and firebombing the local utilties.
What I
>am saying is that it is foolish to standby while clear rule violations
are
>taking place in part 15 AND those same rule violations are disrupting
>legitimate amateur communications.

But these users are not operating under part 15. They are unlicensed.
Get unlicensed users shut down. Don't force licensed part 15 off the

air.

>Part 15 users and hams CAN and SHOULD get
>along together. But this is a two way steet and the only time I am
aware of
>that hams pushed back was when the Part 15 WISP was completely
uncooprative
>(tried to claim he was running his ISP under Part 18).

I am not arguing this... BTW, what is part 18?

>Most WISP's are more
>then willing to work with ham's to resolve problems. But you statement
of
>contacting the FCC before the ARRL takes all chance of working things
out
>without goverment involvement out of the picture. I think the FCC
should only
>be involved as a last resort.

YES YES YES.

But if that does not work, contact the FCC - at least if they are
unlicensed because of illegal power or equipment.

Darryl

---
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## 21. [ss] RE: ss digest: December 05, 2002

From: Brett Glass <brett@lariat.org>
Date: Fri, 06 Dec 2002 22:41:26 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-109887-2002.12.07-00.26.36--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 01:41 AM 12/6/2002, Darryl Smith wrote:

>Look on the back of a YDI amp... It says that it complies with PART 15,
>WHEN PART OF A CERTIFIED SYSTEM. When was the last time you saw a system
>run with an amp be a CERTIFIED SYSTEM?

Actually, YDI has amp/antenna systems which have been certified to meet
Part 15 when used with Orinoco 802.11b cards. So does Hyperlink, which
sells at least as many amplifiers. If you build the system from the
components for which they've gotten certification, it's legal under
Part 15.

Also, many believe that the "professional installer" clause in Part 15
allows someone who knows what he's doing to do the math (antenna gain,
amplifier gain, cable loss, etc.) and verify that a system will meet
the emissions limits even if that particular combination of parts has
not been certified. As far as I know, the FCC hasn't clarified whether
it agrees with this reading of the regulations. But given that the
logistics of installation involve so many variables (mast lengths,
wall thicknesses, the need for handmade pigtails, etc.) that it's
sometimes hard to do an install with only the prefab parts that come
out of a box, it's reasonable.

Finally, I personally believe that the Part 15 limits emissions for
outdoor WLANs are too low by a factor of about 6 to 8 dB. If these LANs
are to scale and be reliable, they really should have the power to reach
a reasonable distance and to cut through the clutter on the band caused
by kids' toys, baby monitors, etc. (which should be confined to the
existing limits). It's absurd that it's possible for a wireless ISP's
access point to be taken out by someone jabbering on a cordless phone
nearby (Yes, I have actually seen this happen.)

This being said, there are some flagrant violators -- just as there were
in the 70's during the CB boom. To go over the EIRP limits by a fraction
may be an honest mistake, but those grossly and wantonly exceeeding them
by factors of 50-100 or more (as truckers did with linear amplifiers)
should be caught and fined.

--Brett Glass

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## 22. [ss] RE: ss digest: December 06, 2002

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Sat, 7 Dec 2002 16:48:52 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-109888-2002.12.07-00.34.15--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Ed Hare commented

>Gotta' be careful tossing around claims about RF safety, because a bit
=
>of careful analysis usually shows that RF safety is not an issue. It is
=
>almost impossible for a Part 15 device to exceed the FCC limits.  It is
=
>nearly as hard for an amateur, even running 1000 watts to a 30-meter =
>dish! :-)

I totally Aggree with Ed Hare on the fact that a PARABOLIC DISH cannot create a high field per cm^2. It is not designed to. A Parabolic dish is designed to take emissions from a point source, and have them hit the dish and leave the dish in PARALELL.

If you took a lens like this and tried to cook food using the sun it would be quite hard. We are talking about a lens that looks almost identical to a piece of glass here since the sun is so far away.

Magnifying glasses are designed with point sources close to each end. You could design a semi-parabolic dish the same way, that would focus the field on a point at a distance - at least in theory.

Darryl

---
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

---
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## 23. [ss] Re: Use of 2.4 GHz Under Part 97

From: Walt DuBose <dubose@texas.net>
Date: Sat, 07 Dec 2002 00:26:02 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-109895-2002.12.07-01.10.22--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have changed the subject but want to let you know my feelings about the subject.

First, the ARRL received a rather large sum of money from the federal government's homeland security fund.  Few non-aligned organizations have received money from this fund with few "strings" attached.
This tells me that the administration acknowledges the value and worth of amateur radio operators and desires to see them improve the organization.  Please note that no WiFi organization has received this kind of money.

While is am a bit disappointed at how the League has decided to use this money, I believe that the mere fact that we received the money and especially the amount of money is a clear indication of our worth.

Anything that we do to improve our communications capability will be noticed.  Being able to use existing technology in an improved way will be most certainly be recognized.

As hams certainly we know that the more reliable you can make a
communications media, the better it is for the user.  And when
you design a system that can in an emergency be used to replace
lost communications, you are going to be noticed.

I see no such movement in the WiFi community.

If we make a big splash and Washington knows about it, we have
the advantage.

In D.C. its not what you know or who you know, its do you have
the advantage
or what can you do for the administration that makes it look good
and still
benefits the nation.

How the "Hill" is running today is very different than during the
Clinton
administration.

Walt

---
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## 24. [ss] RE: ss digest: December 06, 2002

From: Walt DuBose <dubose@texas.net>
Date: Sat, 07 Dec 2002 00:32:19 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-109897-2002.12.07-01.16.42--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Darryl Smith wrote:
>
>
> If you took a lens like this and tried to cook food using the sun it
> would be quite hard. We are talking about a lens that looks almost
> identical to a piece of glass here since the sun is so far away.
>

Can you say solar oven and solar cooking.  I've boiled soup and
cooked
beans on a solar cooker that has a shiny dish reflector and a
hook in
the center of focus of the dish to hang a pot on.  I never looked
at the
physics of it, but the dang thing worked, except on cloudy days.
But we
have lots of sun up here in Texas.

Walt

---
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## 25. [ss] Re: Cooking food with high EIRP?

From: Ron Hashiro <rhashiro@verizon.net>
Date: Fri, 06 Dec 2002 23:14:22 -1000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-109903-2002.12.07-03.59.22--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I concur with Lawrence.

If I recall correctly, the first demonstration of food cooking was at
Raytheon,
where someone popped popcorn kernals by hold it in the path of a 40 watt
microwave
amplifier output.

A high powered residential microwave (such as the 1 KW Panasonic Microwaves)
puts out 1000 Watts (look at the label) in the 2.4 GHz ISM band.  2.4 GHz is
used because the components are cheaper than Ku Band or 65 GHz, where there
are peaks in water absorption.

So, if you get near 1 KW EIRP in the near field of a dish, you WILL cook
food.

Or you head.

Don't be fooled.  Ten watts, into 20 dB gain, is 1,000 watts.  Be careful.

Lawrence Stoskopf wrote:

>But I do remember about 1957 seeing at Kansas State's Engineering Open
>House someone cooking a hot dog over the end of an open waveguide right
>out of some sort of surplus RF generator.  Wasn't sophisticated enough
>at the time to do anything but say, "WOW!"
>
>N0UU
>
>>Gotta' be careful tossing around claims about RF safety, because a bit of careful analysis usually shows that RF safety is not an issue. It is almost impossible for a Part 15 device to exceed the FCC limits.  It is nearly as hard for an amateur, even running 1000 watts to a 30-meter dish! :-)
>>

---
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## 26. [ss] Re: Cooking food with high EIRP?

From: "Pinfold" <pinfold@xtra.co.nz>
Date: Sat, 7 Dec 2002 23:32:33 +1300
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-109904-2002.12.07-05.19.34--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Just to put my 2 cents worth in ... 10 watts ( calorific heating value ) into a 20 db dish  still spits out 10 watts ( calorific heating value )  no more energy is obtained !  the max heating value  is still only a possible maximum of 10 watts ! its power density that you have to watch!  however please be carefull with your eyes ( they have neglible internal blood flow to carry heat away) and their  insides can go like the white of an egg if heated up to much  ! sort of limits the ability to read the colours on half watt resistors or 1 w or 10w ones as well ! so  remember the  inverse square law for saftey ! Mike ZL1BTB
----- Original Message -----
From: "Ron Hashiro" <rhashiro@verizon.net>
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Sent: Saturday, December 07, 2002 10:14 PM
Subject: [ss] Re: Cooking food with high EIRP?

> I concur with Lawrence.
>
> If I recall correctly, the first demonstration of food cooking was at
> Raytheon,
> where someone popped popcorn kernals by hold it in the path of a 40 watt
> microwave
> amplifier output.
>
> A high powered residential microwave (such as the 1 KW Panasonic
Microwaves)
> puts out 1000 Watts (look at the label) in the 2.4 GHz ISM band.  2.4 GHz
is
> used because the components are cheaper than Ku Band or 65 GHz, where
there
> are peaks in water absorption.
>
> So, if you get near 1 KW EIRP in the near field of a dish, you WILL cook
> food.
> Or you head.
>
> Don't be fooled.  Ten watts, into 20 dB gain, is 1,000 watts.  Be careful.
>
> Lawrence Stoskopf wrote:
>
> >But I do remember about 1957 seeing at Kansas State's Engineering Open
> >House someone cooking a hot dog over the end of an open waveguide right
> >out of some sort of surplus RF generator.  Wasn't sophisticated enough
> >at the time to do anything but say, "WOW!"
> >
> >N0UU
> >
> >>Gotta' be careful tossing around claims about RF safety, because a bit

of careful analysis usually shows that RF safety is not an issue. It is
almost impossible for a Part 15 device to exceed the FCC limits.  It is
nearly as hard for an amateur, even running 1000 watts to a 30-meter dish!
:-)
> >>
>
>
>
> ---
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>


---
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## 27. [ss] Re: ISP Proposal and Illegal operation

From: "Geoff Edmonson" <w5omr@w5omr.shacknet.nu>
Date: Sat, 7 Dec 2002 06:24:45 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-109910-2002.12.07-07.09.23--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> But these users are not operating under part 15. They are unlicensed.
> Get unlicensed users shut down. Don't force licensed part 15 off the
> air.

I believe we've finally hit the crux of the problem.

As *I* understand it (here in the US) and I'm sure some others do, too...
Part 15 users do NOT need to be licensed.  For that matter, Part 95 users
are no longer required to be licensed, either.  Part 97, yes.

Part 15 - Public.
Part 95 - Citizens (as in Citizens Band)
Part 97 - Amateur Radio

Part 15 users licensed?  Where?

Regards,
-Geoff



---
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## 28. [ss] Re: Cooking food with high EIRP?

From: "Geoff Edmonson" <w5omr@w5omr.shacknet.nu>
Date: Sat, 7 Dec 2002 06:29:36 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-109912-2002.12.07-07.14.06--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Just to put my 2 cents worth in ... 10 watts ( calorific heating value )
> into a 20 db dish  still spits out 10 watts ( calorific heating value )  no
> more energy is obtained !

Tell that to the field strength meter.



---
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## 29. [ss] New Ham Recruits From Part 15 Users

From: "John Champa" <k8ocl@hotmail.com>
Date: Sat, 07 Dec 2002 10:04:58 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-109925-2002.12.07-09.50.00--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Greetings,

The HSMM Working Group, by effectively adapting IEEE 803.11 technology to
Part 97 use, is hoping to create a vast new pool of potential radio amateurs
by welcoming Part 15 users and encouraging them to upgrade to a Ham ticket
for greater and legal privileges on 2.4 GHz.

BTW, it appears likely that we will be issuing a formal Call for Papers
regarding the ARRL HSMM Protocol at the next Dayton Hamvention.

Vy 73,
John - K8OCL
ARRL HSMM WG

_____
Add photos to your messages with MSN 8. Get 2 months FREE*.
http://join.msn.com/?page=features/featuredemail

---
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## 30. [ss] Re: Use of 2.4 GHz Under Part 97

From: Bill Vodall - WA7NWP <wa7nwp@yahoo.com>
Date: Sat, 07 Dec 2002 07:23:23 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-109927-2002.12.07-10.13.18--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>
>As hams certainly we know that the more reliable you can make a
>communications media, the better it is for the user.  And when
>you design a system that can in an emergency be used to replace
>lost communications, you are going to be noticed.
>
>I see no such movement in the WiFi community.

The local WiFi organization here is contacting local emergency management
organizations about providing services in times of need.    Their network technology
is based on dynamic, fairly modern, networking technology freely available in
Unix systems.   They have, in general, passed the 10+ year old Ampr.org network
in technology.   One of these days (and I mean days, not months) somebody on the
community WiFi front will get the hot idea to VPN all the community networks together
and when that happens, Ampr.org will be museum technology.

They, the WiFi'ers, should be paying a bit more attention to the lessons we learned
with legacy packet 15 years ago.   Things like Hidden Transmitters and desense from
near by radios are a real problem.   It's fascinating to watch them "discover" these issues
all over again.

Now if we married the technologies we'd have something.   802.11* for the last 100 feet.
Amateur links, using SS and other technologies on the other sparsely used ham bands,
for the "10's of miles" connections from Internet gateways to 802.11 enabled servers.
Tie it all together as a VPN under the Ampr.org umbrella.  Wow!   That would be impressive.

73,
Bill - WA7NWP

PS.  Here's a thought.   If a communications circuit can be established with Part 15
equipment, doing the same with "commonly configured"  (a trick statement - troll bait)
Part 97 equipment would technically put the Part 97 equipment in the realm of operating
illegally.   <grin>

---
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## 31. [ss] FWIW: "Feds Label Wi-Fi a Terrorist Tool"

From: "Clay Bartholow" <w0led@arrl.net>
Date: Sat, 7 Dec 2002 9:33:18
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-109928-2002.12.07-10.18.11--lyris.ss#tapr.org@lists.tapr.org>

Rendered body type: text/plain

FWIW via ACM Tech News:

"Feds Label Wi-Fi a Terrorist Tool"

"Panelists at this week's 802.11 Planet conference warned that users and manufacturers of Wi-Fi technology will face federal regulation unless they can secure their systems."

http://www.acm.org/technews/articles/2002-4/1206f.html#item1

http://www.wired.com/news/wireless/0,1382,56742,00.html

Clay
W0LED
May the VSWR Be With You!

---
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## 32. [ss] Re: ISP Proposal and Illegal operation

From: Jeff King <jeff@aerodata.net>
Date: Sat, 7 Dec 2002 12:31:20 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-109935-2002.12.07-12.16.37--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

It is important to review how this thread got started.

On Sat, 7 Dec 2002 16:40:52 +1100, Darryl Smith wrote:

>I belive that the story of the Tar Baby is a USA fairy tale... About
>how
>more the brair fox from memory strugled, the more they got stuck. By
>enforcing part 97 TO THE LETTER OF THE LAW, I believe we run the
>risk of loosing primary

The originator of this thread, a licensed amateur radio operator, was concerned about a WISP running uncertified gear well in excess of the Part 15 limits. I solely stated that if two conditions where meet, that is the WISP was in violation of part 15 (he is) AND that same operation repeatedly disrupted communications at his location, that he should contact the ARRL.

How is this a TAR BABY fairy tale?

BTW, primary on 2.4ghz is Part 18. I.E. your microwave ovens.

>
>>And as I CLEARLY stated before, I am against hams forming death
>>squads
>to track
>>down baby monitors, portable phones and firebombing the local
>>utilties.
>What I
>>am saying is that it is foolish to standby while clear rule
>>violations
>are
>>taking place in part 15 AND those same rule violations are
>>disrupting
>>legitimate amateur communications.
>
>But these users are not operating under part 15. They are unlicensed.
>Get unlicensed users shut down. Don't force licensed part 15 off the
>air.

Wrong and wrong. All the devices I mentioned are part 15 and I never suggested that they be shut down. As you are Australian, part of the original British empire, I didn't hesitate using sarcasm to make my point ("fire bombing and death squads"). Perhaps this was a mistake but you should understand now what I was saying.

It is important to review how this thread got started. It had nothing to do with WLAN's or Baby monitors.

>

>>Part 15 users and hams CAN and SHOULD get
>>along together. But this is a two way steet and the only time I am
>aware of
>>that hams pushed back was when the Part 15 WISP was completely
>uncooprative
>>(tried to claim he was running his ISP under Part 18).
>
>I am not arguing this... BTW, what is part 18?

Microwave ovens and medical equipment. See:

http://wireless.fcc.gov/rules.html

>>Most WISP's are more
>>then willing to work with ham's to resolve problems. But you
>>statement
>of
>>contacting the FCC before the ARRL takes all chance of working
>>things
>out
>>without goverment involvement out of the picture. I think the FCC
>should only
>>be involved as a last resort.
>
>YES YES YES.
>
>But if that does not work, contact the FCC - at least if they are
>unlicensed because of illegal power or equipment.

And this was all I was saying, and now we have come full circle with you now
agreeing with me.

But I am glad we got here.

73

Jeff

---
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## 33. [ss] Re: ISP Proposal and Illegal operation

From: Jeff King <jeff@aerodata.net>
Date: Sat, 7 Dec 2002 13:19:12 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-109956-2002.12.07-13.04.24--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Fri, 6 Dec 2002 21:14:19 -0800, Steve Stroh wrote:

>I'm speaking for myself - not TAPR.

Rubbish. While you may not be making an official statement for TAPR, you sit
on the board of director's of TAPR and try to influence their position in
votes and during meetings. And I wouldn't expect less from you.

So while technically, without a board resolution, you can't speak for TAPR;
if your going to use this excuse here in public, at least let the readers
know you are a TAPR board member and your post reflects your position as
such. This is only fair. You also should also disclose that you make part of
your income from speaking and consulting for WISP's, some of who have been
cited in this very thread as being in potential violation of Part 15.

BTW, I'm glad for a change to see two TAPR board members that can speak their
mind and are not afraid to interact with the membership... we need more of
this. Open debate is the sign of any healthy organization.

>I think that a "tippling point" has been reached sometime earlier
>this year,
>brought on by the million-plus Wi-Fi devices shipping per month

Great. But not how the thread got started. It is important to look at this,

to take things in context. In summary:

The originator of this thread, a licensed amateur radio operator, was concerned about a WISP running uncertified gear well in excess of the Part 15 limits. I solely stated that if two conditions where meet, that is the WISP was in violation of part 15 (he is) AND that same operation repeatedly disrupted communications at his location, that he should contact the ARRL.

I don't think it is fair of you to repeatedly try to make this thread something it is not. It is not ham radio vs. the attack of the baby monitors or Starbuck's hotspots.

Read the original post, Steve.

>I'm not arguing that 2.4 GHz is the optimum spectrum for such a
>popular
>service, or that Wi-Fi is the optimum technology. But such arguments
>are
>largely irrelevant. Wi-Fi on 2.4 GHz is "the hottest thing going" in
>the
>computer and telecommunications industry... and it's ill advised to
>try to stop or divert that trend.

I challenge you to point out one instance of this in any of the postings on this thread. You can't, because it never happened. Stop the hyperbole Steve.

>If Amateur Radio's leadership looks at the situation on 2.4 GHz the
>LEAST bit objectively,

I look to the ARRL and TAPR as Amateur radio leadership. Maybe you two groups could get together and work things out.

>If not, I fully expect that Amateur Radio will lose all its unique
>privileges in the 2.4 GHz band; perhaps retaining defacto privileges
>whose technical parameters are the same as Part 15 users.

Part 18 (ISM) I believe is primary on the 2.4ghz band. Microwave ovens and the such. Ham's have no say over these devices, so what you suggest to a large degree is already the reality today.

Lets take a look at one Amateur radio group, in a leadership role, spin on ham's and Part 15:

http://www.arrl.org/tis/info/part15.html

And while I can't find the specific citation here, I recall reading, and have been told by ARRL staffer's, that they only get involved in the most grievance cases. And frankly, I don't think most legitimate WISP's have a thing to worry about as amateur density in rural areas is very low, and any conflicts would be easily worked out.

Steve, this is simply not a witch hunt nor should you try to make it into one.

73

Jeff
>>

---
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## 34. [ss] part 15 certification question

From: Jeff King <jeff@aerodata.net>
Date: Sat, 7 Dec 2002 13:23:21 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-109960-2002.12.07-13.08.36--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Brett

On Fri, 06 Dec 2002 22:41:26 -0700, Brett Glass wrote:

>At 01:41 AM 12/6/2002, Darryl Smith wrote:
>
>>Look on the back of a YDI amp... It says that it complies with PART
>>15,
>>WHEN PART OF A CERTIFIED SYSTEM. When was the last time you saw a
>>system
>>run with an amp be a CERTIFIED SYSTEM?
>
>Actually, YDI has amp/antenna systems which have been certified to
>meet
>Part 15 when used with Orinoco 802.11b cards. So does Hyperlink,
>which
>sells at least as many amplifiers. If you build the system from the
>components for which they've gotten certification, it's legal under
>Part 15.

The way I read that specific rule, it had to be a complete system, meaning YDI and Hyperlink had to sell them everything, including the 802.11b card and/or AP. Reason I ask is I have a design I did for a amp that I wanted to get certified (for the WAP11/WET11) but I DON'T want to have to sell the customer the AP...

Any idea how YDI/Hyperlink got around this or am I reading it wrong?

Regards,

Jeff

---
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## 35. [ss] Re: ISP Proposal and Illegal operation

From: Jeff King <jeff@aerodata.net>
Date: Sat, 7 Dec 2002 13:31:06 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-109961-2002.12.07-13.16.21--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Geoff:

I believe what you are quoting is someone's misunderstanding of the Part 15 rules.

Part 15 end users (as well as Part 95) are not required to be licensed. Part 15 equipment is certified by the manufacturer. If a part 15 user modifies the equipment as certified, then the equipment is not certified and cannot be used (except under part 97 if that person has an amateur license).

Please see:

http://wireless.fcc.gov/rules.html

Regards,

Jeff

On Sat, 7 Dec 2002 06:24:45 -0600, Geoff Edmonson wrote:
>>But these users are not operating under part 15. They are
>>unlicensed.
>>Get unlicensed users shut down. Don't force licensed part 15 off
>>the
>>air.
>
>I believe we've finally hit the crux of the problem.
>
>As *I* understand it (here in the US) and I'm sure some others do,
>too...
>Part 15 users do NOT need to be licensed.  For that matter, Part 95
>users
>are no longer required to be licensed, either.  Part 97, yes.
>
>Part 15 - Public.
>Part 95 - Citizens (as in Citizens Band)

>Part 97 - Amateur Radio
>
>Part 15 users licensed?  Where?
>
>Regards,
>-Geoff
>
>
>
>---
>You are currently subscribed to ss as: jeff@aerodata.net
>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
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## 36. [ss] Re: ISP Proposal and Illegal operation

From: Jeff King <jeff@aerodata.net>
Date: Sat, 7 Dec 2002 13:43:09 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-109963-2002.12.07-13.28.40--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Oh, and I should mention their is an exemption under 15.23 for hobbyist's,
but in the context of this thread, 15.23 would not apply (the end user was a
commercial wisp modifying equipment AND operating in excess of ERP limits).

--
Jeff King, jeff@aerodata.net on 12/7/2002


On Sat, 7 Dec 2002 13:31:06 -0500, Jeff King wrote:
>Geoff:
>
>I believe what you are quoting is someone's misunderstanding of the
>Part 15
>rules.
>
>Part 15 end users (as well as Part 95) are not required to be
>licensed. Part
>15 equipment is certified by the manufacturer. If a part 15 user
>modifies the
>equipment as certified, then the equipment is not certified and
>cannot be
>used (except under part 97 if that person has an amateur license).
>
>Please see:
>
>http://wireless.fcc.gov/rules.html
>
>Regards,
>
>Jeff
>
>
>
>On Sat, 7 Dec 2002 06:24:45 -0600, Geoff Edmonson wrote:
>>>But these users are not operating under part 15. They are
>>>unlicensed.
>>>Get unlicensed users shut down. Don't force licensed part 15 off
>>>the
>>>air.
>>
>>I believe we've finally hit the crux of the problem.
>>
>>As *I* understand it (here in the US) and I'm sure some others do,
>>too...
>>Part 15 users do NOT need to be licensed.  For that matter, Part 95
>>users
>>are no longer required to be licensed, either.  Part 97, yes.
>>
>>Part 15 - Public.
>>Part 95 - Citizens (as in Citizens Band)
>>Part 97 - Amateur Radio

>>
>>Part 15 users licensed?  Where?
>>
>>Regards,
>>-Geoff

---
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## 37. [ss] Steve Stroh criticisms

From: "Steve Stroh" <lists@strohpub.com>
Date: Sat, 7 Dec 2002 12:46:32 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-109982-2002.12.07-15.33.02--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Jeff King has raised some points about me, my involvement with TAPR, and my involvement with the Wireless ISP industry. As I've previously stated on this list and elsewhere, from long experience I choose not to engage Jeff in a tit-for-tat, point-for-point debate. We've done so a number of times in the past, and such debates tend to alienate other list members, go on forever, and in the end they simply aren't that enlightening.

Jeff raised some questions about me and my motivations, so I'll answer some of them here for the benefit of others who may, as a result of Jeff's innuendo, question my motivations for stating the opinions I've offered on this list over the past few weeks.

As I stated, when I offer my opinions, I'm not speaking for TAPR... no more than I'm speaking for the ARRL as a member of same. I am a member of the TAPR Board of Directors. I am one of nine TAPR Directors and mine is but one voice.

Yes, I am involved professionally with the WISP industry, as a glance at my web page - www.strohpub.com will quickly reveal.

To be clear... I have a great and deep love for Amateur Radio. The experience I've gained as an Amateur Radio Operator is the foundation knowledge of my involvement with the Broadband Wireless Internet Access industry. I'm actively involved in Amateur Radio operations, and happily tinker when I get the chance with ongoing Amateur Radio digital communications projects. That said... I'm not blinded by my love of Amateur Radio so as not to see the many, MANY problems that Amateur Radio has. I'm being coldly realistic with the opinions that I have offered, and I expect them to be borne out substantially in the coming months and years, much as I have stated them.

The only reason I offered these opinions was I felt that I had something to add to the discussions because of my background and the possibility that some who monitor this list who are in positions of influence within Amateur Radio might see the situation of Amateur Radio operations on 2.4 GHz from a different perspective. I will not benefit in any conceivable way from loss of Amateur Radio privileges on 2.4 GHz, should that come to pass as I have opined.

I'll repeat this... I personally will not benefit in ANY CONCEIVABLE WAY from loss of Amateur Radio privileges on 2.4 GHz.

I apologize for taking list bandwidth for this particular matter, but (also from long experience), if innuendo that's posted to a list isn't challenged, it festers and creates incorrect impressions.

Thanks,

Steve N8GNJ

--
Steve Stroh   steve@strohpub.com  425-481-0600

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 38. [ss] Re: ISP Proposal and Illegal operation

From: "Geoff Edmonson" <w5omr@w5omr.shacknet.nu>
Date: Sat, 7 Dec 2002 15:07:02 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-109985-2002.12.07-15.51.47--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Geoff:
>
> I believe what you are quoting is someone's misunderstanding of the Part 15
> rules.
>
> Part 15 end users (as well as Part 95) are not required to be licensed. Part
> 15 equipment is certified by the manufacturer. If a part 15 user modifies the
> equipment as certified, then the equipment is not certified and cannot be
> used (except under part 97 if that person has an amateur license).
>
> Please see:
>
> http://wireless.fcc.gov/rules.html

Seems pretty plain to me.  Why all the postulating here about it, then?
A certified part 15 device, doesn't need a license to operate.

The final (and, IMO, definitive) question is: "Are RF amplifiers certifiable
under part 15?"

If the answer is 'no', then any amplifier that increases the signal output to
more than 1,000mW (1W) is illegal.  Period.

--
73 = Best Regards,
-=Geoff/W5OMR=-

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 39. [ss] Re: Steve Stroh criticisms

From: Jeff King <jeff@aerodata.net>
Date: Sat, 7 Dec 2002 16:43:49 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-109987-2002.12.07-16.29.14--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve:

Once again, via your title, you chose to make this personal. It was not.

I don't think it is too much to expect that a writer disclose their
involvement's and any potential conflicts of interest. This is only in
fairness to a reader, who may not know such things.

Anything else you care to read into this is your own doing. It is really
ashame that you cannot simply reply to messages in the context they were
sent, and not continually cry foul or attempt to divert the conversation to
something it is not. You might find I agree with you more often then you
think.

73

Jeff

P.S.

I actually found a issue with your signature file which may have lead to your
assumption everyone knew you where a paid WISP consultant. You might want to
correct it. You stated:

>Yes, I am involved professionally with the WISP industry, as a
>glance at my web page - www.strohpub.com will quickly reveal.

This is true, but looking at your signature file on the TAPR SS-SIG, we see
no mention of this webpage or affiliation:

TAPR SS-SIG>Steve Stroh   steve@strohpub.com  425-481-0600

However, in a post you did today on the commercial WISP mailing list from the
exact same address,  strangely we see:

ISP-WIRELESS>Steve Stroh   steve@strohpub.com  425-481-0600
ISP-WIRELESS>Editor - Focus on Broadband Wireless Internet Access newsletter
ISP-WIRELESS>http://www.strohpub.com/focus

No sure why you would want to conceal this useful information from your
SIGNATURE file here, but I just wanted to point out this discrepancy in case
you overlooked it. I wouldn't naturally assume all the readers here are also
on the ISP-WIRELESS mailing list and are aware you are a paid industry
consultant, that is all. I was, and that is why I disclosed it since you had
failed to.

--
Jeff King, jeff@aerodata.net on 12/7/2002

On Sat, 7 Dec 2002 12:46:32 -0800, Steve Stroh wrote:
>
>Jeff King has raised some points about me, my involvement with TAPR,
>and my
>involvement with the Wireless ISP industry. As I've previously
>stated on
>this list and elsewhere, from long experience I choose not to engage
>Jeff in
>a tit-for-tat, point-for-point debate. We've done so a number of
>times in
>the past, and such debates tend to alienate other list members, go on
>forever, and in the end they simply aren't that enlightening.
>
>Jeff raised some questions about me and my motivations, so I'll
>answer some
>of them here for the benefit of others who may, as a result of Jeff's
>innuendo, question my motivations for stating the opinions I've
>offered on
>this list over the past few weeks.
>
>As I stated, when I offer my opinions, I'm not speaking for TAPR...
>no more
>than I'm speaking for the ARRL as a member of same. I am a member of
>the
>TAPR Board of Directors. I am one of nine TAPR Directors and mine is
>but one
>voice.
>
>Yes, I am involved professionally with the WISP industry, as a
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>web page - www.strohpub.com will quickly reveal.
>
>To be clear... I have a great and deep love for Amateur Radio. The
>experience I've gained as an Amateur Radio Operator is the foundation
>knowledge of my involvement with the Broadband Wireless Internet
>Access
>industry. I'm actively involved in Amateur Radio operations, and
>happily
>tinker when I get the chance with ongoing Amateur Radio digital
>communications projects. That said... I'm not blinded by my love of
>Amateur
>Radio so as not to see the many, MANY problems that Amateur Radio
>has. I'm
>being coldly realistic with the opinions that I have offered, and I
>expect
>them to be borne out substantially in the coming months and years,
>much as I
>have stated them.
>
>The only reason I offered these opinions was I felt that I had
>something to
>add to the discussions because of my background and the possibility
>that
>some who monitor this list who are in positions of influence within
>Amateur

>Radio might see the situation of Amateur Radio operations on 2.4 GHz
>from a
>different perspective. I will not benefit in any conceivable way
>from loss
>of Amateur Radio privileges on 2.4 GHz, should that come to pass as
>I have
>opined.
>
>I'll repeat this... I personally will not benefit in ANY CONCEIVABLE
>WAY
>from loss of Amateur Radio privileges on 2.4 GHz.
>
>I apologize for taking list bandwidth for this particular matter,
>but (also
>from long experience), if innuendo that's posted to a list isn't
>challenged,
>it festers and creates incorrect impressions.
>
>
>Thanks,
>
>Steve N8GNJ
>
>--
>Steve Stroh   steve@strohpub.com  425-481-0600
>
>
>
>---
>You are currently subscribed to ss as: jeff@aerodata.net
>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 40. [ss] Re: Steve Stroh criticisms

From: Jeff King <jeff@aerodata.net>
Date: Sat, 7 Dec 2002 17:08:22 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-109990-2002.12.07-16.53.50--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I missed a couple items.

On Sat, 7 Dec 2002 12:46:32 -0800, Steve Stroh wrote:
>I'll repeat this... I personally will not benefit in ANY CONCEIVABLE
>WAY from loss of Amateur Radio privileges on 2.4 GHz.

I believe you. However, within the context of "conflict of interest' another
statement would also have to be true. It being:

"I personally will not benefit in ANY CONCEIVABLE WAY from Part 15
WISP's being given more privileges on 2.4GHz to the determent of amateur
radio."  This is a statement you cannot make.

Conflict of interest is always a statement of duality, not singularity as you
are trying to make it. As you once told me, it is often the appearances that
make the difference.

>I apologize for taking list bandwidth for this particular matter,
>but (also
>from long experience), if innuendo that's posted to a list isn't
>challenged,
>it festers and creates incorrect impressions.

As do I.    And once again, I'll remind you Steve:

--
The originator of this thread, a licensed amateur radio operator, was
concerned about a WISP running uncertified gear well in excess of the Part 15
limits. I solely stated that if two conditions where meet, that is the WISP
was in violation of part 15 (he is) AND that same operation repeatedly
disrupted communications at his location, that he should contact the ARRL.

I don't think it is fair of you to repeatedly try to make this thread
something it is not. It is not ham radio vs. the attack of the baby monitors
or Starbuck's hotspots. (Nor is it a "Steve vs. Jeff" issue as you have now
tried to paint it)
--

Thanks

Jeff

---
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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 41. [ss] Re: ISP Proposal and Illegal operation

From: Jeff King <jeff@aerodata.net>
Date: Sat, 7 Dec 2002 17:10:53 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-109991-2002.12.07-16.56.22--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Sat, 7 Dec 2002 15:07:02 -0600, Geoff Edmonson wrote:

>>Please see:
>>
>>http://wireless.fcc.gov/rules.html
>
>Seems pretty plain to me.  Why all the postulating here about it,
>then?

You'll have to ask the other parties. The law is very clear to me.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 42. [ss] Re: Cooking food with high EIRP?

From: "Pinfold" <pinfold@xtra.co.nz>
Date: Sun, 8 Dec 2002 13:58:46 +1300
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110010-2002.12.07-20.37.50--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Geoff,  yes you are right the feild strength meter will read higher, no
doubt about that ! and it will if the ant is doing a good job   but if you
think how an antenna  gain array acheives an apparent increase in field
strength in wanted directions  by enhancing the field strength at the
EXPENSE of field strength in other directions. thats the key !, instead of
sharing its energy out in a spherical shape where field strength is
identical at a fixed distance  all around from the source. Look at it this
way put a "huge rf catching cloth" completely encompassing the antenna,  how
much rf  will we "catch" from that antenna if we feed it with 10 W ?  at
100% catching efficiency  10 watts!  doesnt matter how the 10 w of rf was
radiated be it a  10db gain yagi 30 db dish or lowely dipole . BUT in front
of a gain array , what you read on the feild strength meter is an EQUIVALENT
power level. Increased by the concentration (gain) in one particular
direction of that normally spherically radiated signal., it is purely a
signal level   equivalent of a spherically radiated signal generated by an
antenna being fed by a power level multiplied by the gain ( concentration
factor in a favoured direction.) that leads to a true increase in feild
strength .. Cheers Mike ZL1BTB----- Original Message -----
From: "Geoff Edmonson" <w5omr@w5omr.shacknet.nu>
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Sent: Sunday, December 08, 2002 1:29 AM
Subject: [ss] Re: Cooking food with high EIRP?

>
>
> > Just to put my 2 cents worth in ... 10 watts ( calorific heating value )
> > into a 20 db dish  still spits out 10 watts ( calorific heating value )

no
> > more energy is obtained !
>
> Tell that to the field strength meter.
>
>
>
>
> ---
> You are currently subscribed to ss as: PINFOLD@XTRA.CO.NZ
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 43. [ss] Re: part 15 certification question

From: Brett Glass <brett@lariat.org>
Date: Sat, 07 Dec 2002 20:29:57 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110020-2002.12.07-22.15.06--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 11:23 AM 12/7/2002, Jeff King wrote:

>The way I read that specific rule, it had to be a complete system, meaning
>YDI and Hyperlink had to sell them everything, including the 802.11b card
>and/or AP.

Not so. What they care about is that the system be one whose components were
certified as a complete system.

Hyperlink, for example, sells kits that consist of an amplifier and antenna
meant to work with a particular WLAN card or cards. You don't need to
buy the card from them if you already have one -- just the amplifier
and antenna kit.

Which is reasonable. The FCC's charter isn't to regulate commerce or to
dictate from whom you buy things. Why buy an extra unit when you already
have one? Also, remember that Part 15 certification is "type" approval.
Every system doesn't have to be tested individually; it's the design that
has to be certified.

--Brett Glass


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 44. [ss] Some ideas for Articles and Papers...

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Sun, 8 Dec 2002 16:59:29 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110047-2002.12.08-00.42.50--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

G'Day All...

Most of the people on this list know about all the work that TAPR does
in the Ham Radio world, including the Digital Communications Conference
next September, and the PSR magazine.

Since we have some activity on the SS mailing list at the moment I
thought it might be useful to suggest some topics for articles for PSR
or for next years Digital Communications Conference. This list is not
extensive, and I am sure that all the people reading this list could
think of more ideas.

So here is the challenge. Over christmas write a paper or an article on
802.11. Deadlines for PSR are mid-january - and articles may be posted
to psr@tapr.org . Deadlines for the DCC will most likely be some time in
july.

Darryl VK2TDS

Ideas for Papers and Articles

a) Coexistance between Ham Radio and Community Wireless Groups
a.1) Coexistance between Ham Radio and the commercial users of
the
spectrum. Including dispute resolution stratergies.
b) Applications for 802.11
c) HIGHER LEVEL Protocols for 802.11, and applicability of
higher level protocols to 802.11 mesh environments
d) Antenna Designs for 802.11
e) Human Factors in 802.11 experimentation
f) State of the 802.11 commercial environment
g) Using Wireless Groups as the breeding grounds for new hams
h) RF techniques for computer geeks
i) Microwave for the HF Ham
j) The new ATV - multicast MPEG on 802.11
k) Voice over 802.11
l) Equipment modifications for :- External antennas, changed
frequencies etc
m) 802.11 technology overview
n) AX.25 and 802.11 - The similarities and the differences
o) 802.11 - Why it is Amateur Radio - and why it is Packet Radio
p) Builing a 2.4 GHz HT with 802.11 and a PDA

---
Darryl Smith, VK2TDS POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 45. [ss] Re: ISP Proposal and Illegal operation

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Sun, 8 Dec 2002 17:05:34 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110049-2002.12.08-00.48.59--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

"Geoff Edmonson" <w5omr@w5omr.shacknet.nu> wrote

>> But these users are not operating under part 15. They are unlicensed.

>> Get unlicensed users shut down. Don't force licensed part 15 off the
>> air.
>
>I believe we've finally hit the crux of the problem.
>
>As *I* understand it (here in the US) and I'm sure some others do,
too...
>Part 15 users do NOT need to be licensed. For that matter, Part 95
users
>are no longer required to be licensed, either. Part 97, yes.
>
>Part 15 - Public.
>Part 95 - Citizens (as in Citizens Band)
>Part 97 - Amateur Radio
>
>Part 15 users licensed? Where?
>
>Regards,
>-Geoff

OK... The regulatory system in Oz is a bit different... Anyway I have
just read up on some of Part 15, and I have come to the following
conslusion

Some Part 15 services are licensed and some are not.

I would guess that part 15 devices only need to comply with the
technical requirements of part 15.

Here in oz howvere, CB equipment for instance are still licensed - under
a class license. It is a very cheap license that is assigned to the
equipment when it is imported into Oz. Modifications to that equipment

would mean it loosing the license.

Darryl

---
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 46. [ss] Re: Cooking food with high EIRP?

From: "Geoff Edmonson" <w5omr@w5omr.shacknet.nu>
Date: Sun, 8 Dec 2002 09:15:05 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110102-2002.12.08-10.00.24--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Hi Geoff,  yes you are right the feild strength meter will read higher, no
> doubt about that ! and it will if the ant is doing a good job   but

I knew there was gonna be a "but"!  ;-)

Let's have some fun with this (grinnin')

> if you
> think how an antenna  gain array acheives an apparent increase in field
> strength in wanted directions  by enhancing the field strength at the
> EXPENSE of field strength in other directions. thats the key !,

For a beam, yes.  We're talking about a Dish, with some gain, and focusing all
the energy that 'was' going in different directions, into one direction.

>From what I read, it seems as if you're trying to say that "if you start with
10w, and you affix an antenna array, and measure the feild strength, then
focus -all- the energy in one direction, then you are only going to see 10w" and
I simply do -not- agree.

> instead of sharing its energy out in a spherical shape where field strength is
> identical at a fixed distance  all around from the source.

Are you saying that there are no vertical antennas (which radiate equally poor
in -all- directions ;->) that have any gain?  My 70cm mobile antenna has 6.3dbd
(that's 6db of gain, over a referenced Dipole, which is 3db gain over an
isotropic antenna).

I can't buy into the idea that 10w of RF eneregy, at 2.4GHz, or higher is safe
within 10' of the antenna.

I think someone else here said it, and it's the way I believe, also - I think of
a beam antenna as a magnifying glass for RF. a "focus", if you will, for the
energy being generated.

ERP means "Effective Radiated Power".  Even vertical antennas can be configured
to show 'gain' of up to 10db.  Crunch that through the ERP formula (which slips
my mind at this time - need more coffee ;->) and the Effective Radiated power
will be more than the power generated by the transmitter.

Roughly: 10W generated into a 9db gain antenna has an ERP of 80W.
With 3db being the "twice power" point,
10W + 3db = 20W
20W + 3db = 40W
40W + 3db = 80W
(this, assuming no losses per connector or transmission line)

So, a "gain" vertical antenna vs. a vertical Dipole will increase the field
strength by increasing the Effective Radiated Power, regardless of frequency.

73 = Best Regards,
-=Geoff/W5OMR=-

---

You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 47. [ss] Re: Cooking food with high EIRP?

From: "Pinfold" <pinfold@xtra.co.nz>
Date: Mon, 9 Dec 2002 07:34:05 +1300
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110116-2002.12.08-13.21.12--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Geoff The Key statement in the discussion in the ERP is that the gain array field strength, is now " EQUIVALANT TO " ie your 10w into the 9db gain antenna generates a field strength along the major lobe at distance x equivalent to a dipole radiating 80 watts. as you know there are directions around that gain array that show a much lower field strength the saftey on rf and at moderate power levels is a real hot potatoe all rf should be treated with respect! your vertical antenna that gives gain doesnt spray out its energy in a sphere but in a very flat doughnut shape there will be very little off the ends! a mind experiment to consider put 10w at 2.4 ghz into a 10 foot dia dish , point it down a 10 foot dia steel tube 100 foot long ,put another identicle 10 foot dia dish at the other end connect a bird wattmeter to the receiving dish feed point How many watts are you going to read in the Bird wattmeter assuming no propagation loss of RF ??????????10w ????? if its more than 10w tell me where the extra energy comes from ??? cheers Mike
----- Original Message -----
From: "Geoff Edmonson" <w5omr@w5omr.shacknet.nu>
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Sent: Monday, December 09, 2002 4:15 AM
Subject: [ss] Re: Cooking food with high EIRP?

>
>
> > Hi Geoff, yes you are right the feild strength meter will read higher, no
> > doubt about that ! and it will if the ant is doing a good job but
>
> I knew there was gonna be a "but"! ;-)
>
> Let's have some fun with this (grinnin')
>
> > if you
> > think how an antenna gain array acheives an apparent increase in field
> > strength in wanted directions by enhancing the field strength at the
> > EXPENSE of field strength in other directions. thats the key !,
>
> For a beam, yes. We're talking about a Dish, with some gain, and focusing all
> the energy that 'was' going in different directions, into one direction.
>
> From what I read, it seems as if you're trying to say that "if you start with
> 10w, and you affix an antenna array, and measure the feild strength, then
> focus -all- the energy in one direction, then you are only going to see 10w" and
> I simply do -not- agree.
>
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> > identical at a fixed distance all around from the source.
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> (that's 6db of gain, over a referenced Dipole, which is 3db gain over an
> isotropic antenna).
>
> I can't buy into the idea that 10w of RF eneregy, at 2.4GHz, or higher is safe
> within 10' of the antenna.
>
> I think someone else here said it, and it's the way I believe, also - I think of
> a beam antenna as a magnifying glass for RF. a "focus", if you will, for the
> energy being generated.
>

> ERP means "Effective Radiated Power".  Even vertical antennas can be
configured
> to show 'gain' of up to 10db.  Crunch that through the ERP formula (which
slips
> my mind at this time - need more coffee ;->) and the Effective Radiated
power
> will be more than the power generated by the transmitter.
>
> Roughly: 10W generated into a 9db gain antenna has an ERP of 80W.
> With 3db being the "twice power" point,
> 10W + 3db = 20W
> 20W + 3db = 40W
> 40W + 3db = 80W
> (this, assuming no losses per connector or transmission line)
>
> So, a "gain" vertical antenna vs. a vertical Dipole will increase the
field
> strength by increasing the Effective Radiated Power, regardless of
frequency.
>
> 73 = Best Regards,
> -=Geoff/W5OMR=-
>
>
>
> ---
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> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 48. [ss] Re: Cooking food with high EIRP?

From: Gerry Creager <gerry.creager@tamu.edu>
Date: Sun, 08 Dec 2002 13:26:19 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110119-2002.12.08-14.13.00--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I'd be real interested in measuring the standing wave set up in the
steel tube...  The combination of sidelobes, and reflective dispersion
could be both interesting, and could easily lead to less than 10w at the
receiving end...

gerry


Pinfold wrote:
> Hi Geoff The Key statement in the discussion in the ERP is that the gain
> array field strength, is now " EQUIVALANT TO " ie your 10w into the 9db gain
> antenna generates a field strength along the major lobe  at distance x
> equivalent to a dipole radiating 80 watts.  as you know there are directions
> around that gain array that show a much lower field strength   the saftey on
> rf and at moderate  power levels is a real hot potatoe  all rf should be
> treated with respect!  your vertical antenna that gives gain doesnt spray
> out its energy in a sphere but in a very flat doughnut shape  there will be
> very little off the ends!   a mind experiment to consider        put 10w at
> 2.4 ghz  into a 10  foot dia dish , point it down a 10 foot dia steel tube
> 100 foot long ,put another identicle 10 foot dia dish at the other end
> connect  a bird wattmeter to the receiving dish feed point How many watts
> are you going to read in the Bird wattmeter assuming no propagation loss of
> RF ??????????10w ?????  if its more than 10w tell me where the extra energy
> comes from  ???  cheers Mike
> ----- Original Message -----
> From: "Geoff Edmonson" <w5omr@w5omr.shacknet.nu>
> To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
> Sent: Monday, December 09, 2002 4:15 AM
> Subject: [ss] Re: Cooking food with high EIRP?
>
>
>
>>
>>>Hi Geoff,  yes you are right the feild strength meter will read higher,
>>
> no
>

>>>doubt about that ! and it will if the ant is doing a good job   but
>>
>>I knew there was gonna be a "but"!  ;-)
>>
>>Let's have some fun with this (grinnin')
>>
>>
>>>if you
>>>think how an antenna  gain array acheives an apparent increase in field
>>>strength in wanted directions  by enhancing the field strength at the
>>>EXPENSE of field strength in other directions. thats the key !,
>>
>>For a beam, yes.  We're talking about a Dish, with some gain, and focusing
>
> all
>
>>the energy that 'was' going in different directions, into one direction.
>>
>>From what I read, it seems as if you're trying to say that "if you start
>
> with
>
>>10w, and you affix an antenna array, and measure the feild strength, then
>>focus -all- the energy in one direction, then you are only going to see
>
> 10w" and
>
>>I simply do -not- agree.
>>
>>
>>>instead of sharing its energy out in a spherical shape where field
>>
> strength is
>
>>>identical at a fixed distance  all around from the source.
>>
>>Are you saying that there are no vertical antennas (which radiate equally
>
> poor
>
>>in -all- directions ;->) that have any gain?  My 70cm mobile antenna has
>
> 6.3dbd
>
>>(that's 6db of gain, over a referenced Dipole, which is 3db gain over an
>>isotropic antenna).
>>
>>I can't buy into the idea that 10w of RF eneregy, at 2.4GHz, or higher is
>
> safe
>
>>within 10' of the antenna.
>>
>>I think someone else here said it, and it's the way I believe, also - I
>
> think of
>
>>a beam antenna as a magnifying glass for RF. a "focus", if you will, for
>
> the
>
>>energy being generated.
>>
>>ERP means "Effective Radiated Power".  Even vertical antennas can be
>
> configured
>
>>to show 'gain' of up to 10db.  Crunch that through the ERP formula (which
>
> slips
>
>>my mind at this time - need more coffee ;->) and the Effective Radiated
>
> power
>
>>will be more than the power generated by the transmitter.
>>
>>Roughly: 10W generated into a 9db gain antenna has an ERP of 80W.
>>With 3db being the "twice power" point,

>>10W + 3db = 20W
>>20W + 3db = 40W
>>40W + 3db = 80W
>>(this, assuming no losses per connector or transmission line)
>>
>>So, a "gain" vertical antenna vs. a vertical Dipole will increase the
>
> field
>
>>strength by increasing the Effective Radiated Power, regardless of
>
> frequency.
>
>>73 = Best Regards,
>>-=Geoff/W5OMR=-
>>
>>
>>
>>---
>>You are currently subscribed to ss as: PINFOLD@XTRA.CO.NZ
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>>
>
>
>
> ---
> You are currently subscribed to ss as: gerry.creager@tamu.edu
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org


--
Gerry Creager -- gerry.creager@tamu.edu
Network Engineering -- AATLT, Texas A&M University
Office: 979.458.4020  FAX: 979.847.8578
Cell: 979.229.4301    Pager: 979.228.0173



---
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## 49. [ss] Re: Use of 2.4 GHz Under Part 97

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Mon, 9 Dec 2002 09:31:41 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110142-2002.12.08-17.16.47--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> >I see no such movement in the WiFi community.
>
> The local WiFi organization here is contacting local
> emergency management
> organizations about providing services in times of need.
> Their network technology
> is based on dynamic, fairly modern, networking technology
> freely available in
> Unix systems.   They have, in general, passed the 10+ year
> old Ampr.org network
> in technology.   One of these days (and I mean days, not
> months) somebody on the
> community WiFi front will get the hot idea to VPN all the
> community networks together
> and when that happens, Ampr.org will be museum technology.

You'll be surprised at the level of technology, particularly on the
networking side.  Emergency comms will come once the WiFi groups have
workable networks.

> They, the WiFi'ers, should be paying a bit more attention to
> the lessons we learned
> with legacy packet 15 years ago.   Things like Hidden
> Transmitters and desense from
> near by radios are a real problem.   It's fascinating to
> watch them "discover" these issues
> all over again.

Indeed.  And it's interesting to see how they play out in this new playing
field as well.

> Now if we married the technologies we'd have something.
> 802.11* for the last 100 feet.
> Amateur links, using SS and other technologies on the other
> sparsely used ham bands,
> for the "10's of miles" connections from Internet gateways to
> 802.11 enabled servers.
> Tie it all together as a VPN under the Ampr.org umbrella.
> Wow!   That would be impressive.

Count me in!  This is the sort of thing I'd want to get involved in.

> PS.  Here's a thought.   If a communications circuit can be
> established with Part 15
> equipment, doing the same with "commonly configured"  (a
> trick statement - troll bait)
> Part 97 equipment would technically put the Part 97 equipment
> in the realm of operating
> illegally.   <grin>

Hmm, as a politician over used to say... "Please explain"...  a little much
doublespeak to be sure I know what you mean...

---
Outgoing mail has been scanned for Viruses
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.423 / Virus Database: 238 - Release Date: 25/11/2002

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## 50. [ss] Re: Cooking food with high EIRP?

From: "Geoff Edmonson" <w5omr@w5omr.shacknet.nu>
Date: Sun, 8 Dec 2002 16:54:51 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110143-2002.12.08-17.39.14--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Hi Geoff The Key statement in the discussion in the ERP is that the gain
> array field strength, is now " EQUIVALANT TO " ie your 10w into the 9db

No no no.

When you -START- with 10w, and you feed that into a 9db gain antenna, you will
have the equivalent of 80w at the received end.

10W + 3db = 20W
20W + 3db = 40W
40W + 3db = 80W

Effective Radiated Power out of a 9db gain antenna (ignoring losses in
connectors/feedline) with 10W in, is 80W out.  With 100W in, that's nearly a
kiloWatt out!

Now, run two antennas together, one with no gain, the other with 9db gain, set
the meters up at the far end, and now tell me which one will show more on the
meter at the far end?

>  a mind experiment to consider        put 10w at
> 2.4 ghz  into a 10  foot dia dish , point it down a 10 foot dia steel tube
> 100 foot long ,put another identicle 10 foot dia dish at the other end
> connect  a bird wattmeter to the receiving dish feed point How many watts
> are you going to read in the Bird wattmeter assuming no propagation loss of
> RF ??????????10w ?????  if its more than 10w tell me where the extra energy
> comes from  ???  cheers Mike

If there's no gain in the Effective Radiated Power, then why bother with a gain

antenna?

The extra energy comes from the 'focusing', if you will, of the energy all in
ONE direction, instead of letting all the energy go everywhere.

73 = Best Regards,
-=Geoff/W5OMR=-

---
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## 51. [ss] Re: Cooking food with high EIRP?

From: Lawrence Stoskopf <stoskopf@tri.net>
Date: Sun, 08 Dec 2002 21:26:59 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110186-2002.12.08-22.12.17--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Effective Radiated Power out of a 9db gain antenna (ignoring losses in
> connectors/feedline) with 10W in, is 80W out.  With 100W in, that's nearly a
> kiloWatt out!

to an omni antenna!  Which will give the same power in the beamwidth of
the 9 dB antenna as the 10 watts would have given.

You just aren't wasting energy.

N0UU

---
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## 52. [ss] How can TAPR support SS development...

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Mon, 9 Dec 2002 16:39:30 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110207-2002.12.09-00.27.09--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

People

Lets attempt to get this all back on track... It seems to me that

        a) There are a lot of people out there experimenting
                with 802.11 inside and outside the ham world.
        b) A lot of these people have no idea about packet type networks
                (which is what 802.11 is) nor about microwave

Given all this, and since this is a TAPR hosted list, I would like to
solicit
Some ideas from the members of this list... And given that not all the
members
Of TAPR have HAM licenses... What I want answered is

        WHAT SHOULD *TAPR* BE DOING TO SUPPORT THIS ACTIVITY

Should we be looking at some microwave hardware projects? A spectrum
analyser kit? Antennas?

Then we have a related question...

        WHAT CAN YOU DO TO HELP *TAPR* ACHIEVE IT'S GOALS OF SUPPORTING
SPREAD SPECTRUM?

Feel free to email me privately....

---------
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

---
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## 53. [ss] Re: Cooking food with high EIRP?

From: "Geoff Edmonson" <w5omr@w5omr.shacknet.nu>
Date: Sun, 8 Dec 2002 23:47:38 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110208-2002.12.09-00.32.13--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Is it just me?

> > Effective Radiated Power out of a 9db gain antenna (ignoring losses in
> > connectors/feedline) with 10W in, is 80W out.  With 100W in, that's nearly >
> a  kiloWatt out!
>
> to an omni antenna!  Which will give the same power in the beamwidth of
> the 9 dB antenna as the 10 watts would have given.

> You just aren't wasting energy.

Two complete and separate, yet identical transmitters, in two complete and
separate, yet identical settings.

Transmitter A is being fed into a 9dbi antenna.
Transmitter B is being fed into an isotropic antenna

Both transmitters are delivering the same amount of power to their respective
loads (antennas)

With complete and separate, yet identical receivers and receiving antennas,
which transmitter will show more relative field strength at the receiver?

Why?

Geeze, I typed that, and it sounds exactly like the type of tests I HATE to
take, but I guess at this point, I need someone to explain to me why 10W into a
9db gain antenna doesn't appear as 80W at the receiver.

(example)
Joe Ham is on 17m SSB.  He thinks "Man, this is a GREAT band, the antenna is
smaller than 20, there's no contest, there's no nets, and there's no 20m
attitudes to deal with!  I'll erect an Antenna for this band, and camp out
here!"  Suddenly, the dipole isn't cutting it anymore, and he wants -more-.

So, he erects a 2-el quad (I picked that, because I've been working with a quad
of late).  Hmmm... 2 quad elements give ~7.3dbd gain.  3 elements is ~10.1dbd
gain.  4 elements should be somewhere around (give or take) 12dbd gain.

So, time goes by and Joe Ham has his 4 element quad in the air, with (let's just
'ass/u/me' it's 12dbd for arguments sake) 12dbd gain, and he puts his 100w out
of his Icom 706 MKIIG (because they're so popular - wish I had one)
and gets the equivalent of:

100W + 3db = 200W
200W + 3db = 400W
400W + 3db = 800W
800W + 3db = 1.6kW

Joe now has the effective radiated power of 1.6kW out of his quad-beam antenna.
In the meantime, Joe decides to leave his dipole up, for a reference.
Switching between the two antennas, Joe sees a difference in the quad and the
dipole.  A MARKEDLY BIG difference!  Why?

Is it still the 100W coming out of the antenna?

Why does the field strength show 10 to 15db of gain, over the dipole?  they both
have 100w out of 'me.

Am I missing something here?

--
73 = Best Regards,
-=Geoff/W5OMR=-

---
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## 54. [ss] Re: Cooking food with high EIRP?

From: Jeffrey Austen <jausten@tntech.edu>
Date: Mon, 09 Dec 2002 00:08:29 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110213-2002.12.09-00.53.38--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Geoff:

Try this experiment. Get a flashlight that comes apart so you can
remove the reflector and have just a bare bulb. Go into a dark room,
stand in the middle, and shine the flashlight at a wall. Observe how
bright the wall is where the flashlight is shining and that any other
place in the room is quite dark. Now remove the reflector so that you
have a bare bulb and repeat the experiment. This time you will notice
that the place where the bright spot was is now dimly illuminated,
however all the other walls are also now dimly illuminated. Without the
reflector the light went in all directions but with the reflector the
light was all concentrated in one direction. This is exactly what
happens with directional antennas.

Jeff

On 2002.12.08 23:47 Geoff Edmonson wrote:
> Is it just me?
>
>
> > > Effective Radiated Power out of a 9db gain antenna (ignoring
> losses in
> > > connectors/feedline) with 10W in, is 80W out.  With 100W in,
> that's nearly >
> > a  kiloWatt out!
> >
> > to an omni antenna!  Which will give the same power in the beamwidth
> of
> > the 9 dB antenna as the 10 watts would have given.
>
> > You just aren't wasting energy.
>
> Two complete and separate, yet identical transmitters, in two complete
> and
> separate, yet identical settings.
>
> Transmitter A is being fed into a 9dbi antenna.
> Transmitter B is being fed into an isotropic antenna
>
> Both transmitters are delivering the same amount of power to their
> respective
> loads (antennas)
>
> With complete and separate, yet identical receivers and receiving
> antennas,
> which transmitter will show more relative field strength at the
> receiver?
>
> Why?
>
> Geeze, I typed that, and it sounds exactly like the type of tests I
> HATE to
> take, but I guess at this point, I need someone to explain to me why
> 10W into a
> 9db gain antenna doesn't appear as 80W at the receiver.
>
> (example)
> Joe Ham is on 17m SSB.  He thinks "Man, this is a GREAT band, the
> antenna is
> smaller than 20, there's no contest, there's no nets, and there's no
> 20m
> attitudes to deal with!  I'll erect an Antenna for this band, and camp
> out
> here!"  Suddenly, the dipole isn't cutting it anymore, and he wants
> -more-.
>

> So, he erects a 2-el quad (I picked that, because I've been working
> with a quad
> of late).  Hmmm... 2 quad elements give ~7.3dbd gain.  3 elements is
> ~10.1dbd
> gain.  4 elements should be somewhere around (give or take) 12dbd
> gain.
>
> So, time goes by and Joe Ham has his 4 element quad in the air, with
> (let's just
> 'ass/u/me' it's 12dbd for arguments sake) 12dbd gain, and he puts his
> 100w out
> of his Icom 706 MKIIG (because they're so popular - wish I had one)
> and gets the equivalent of:
>
> 100W + 3db = 200W
> 200W + 3db = 400W
> 400W + 3db = 800W
> 800W + 3db = 1.6kW
>
> Joe now has the effective radiated power of 1.6kW out of his quad-beam
> antenna.
> In the meantime, Joe decides to leave his dipole up, for a reference.
> Switching between the two antennas, Joe sees a difference in the quad
> and the
> dipole.  A MARKEDLY BIG difference!  Why?
>
> Is it still the 100W coming out of the antenna?
>
> Why does the field strength show 10 to 15db of gain, over the dipole?
> they both
> have 100w out of 'me.
>
> Am I missing something here?
>
>
> --
> 73 = Best Regards,
> -=Geoff/W5OMR=-
>
>
>
> ---
> You are currently subscribed to ss as: JAUSTEN@TNTECH.EDU
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
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## 55. [ss] Re: ISP Proposal and Illegal operation

From: "Hare,Ed, W1RFI" <w1rfi@arrl.org>
Date: Mon, 9 Dec 2002 11:15:36 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110235-2002.12.09-11.01.39--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> But these users are not operating under part 15. They are unlicensed.
> Get unlicensed users shut down. Don't force licensed part 15 off the
> air.

There are no licensed Part 15 operations. The spread-spectrum operation operates under the same basic set of rules and assumptions as baby monitors.

For information on Part 15 and amateur radio, see:

http://www.arrl.org/tis/info/part15.html

73,
Ed Hare, W1RFI
ARRL Lab
225 Main St
Newington, CT 06111
Tel: 860-594-0318
Internet: w1rfi@arrl.org
Web: http://www.arrl.org/tis
> -----Original Message-----
> From: Darryl Smith [mailto:Darryl@radio-active.net.au]

> Sent: Saturday, December 07, 2002 12:41 AM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: ISP Proposal and Illegal operation
>
>
> Jeff King <jeff@aerodata.net> wrote.
>
> >> Because the eyes of Washington are on us as hams... Whatever we do
> >> will make an impact. We do not have the lobying power of
> the wireless
> >> community groups.... Imagine the power of Microsoft, Cisco, Sprint,
> >> Verizon etc. Think the Little Leo and multiply things by 1000.
> >>
> >
> >Yes, we do agree the eyes of Washington are on hams. If we
> sit by, and
> let
> >blatent rule violators take over our bands, in full view of the
> regulators,
> >then this will become the norm. Part 97 are primary over part 15 and
> the rule
> >of the land should mean something, even to the MicroSoft's that you
> seem to
> >feel we should run scared from. Is rolling over and letting
> people walk
> all
> >over you the impact you wish to make in life?
>
> I belive that the story of the Tar Baby is a USA fairy
> tale... About how
> more the brair fox from memory strugled, the more they got stuck. By
> enforcing part 97 TO THE LETTER OF THE LAW, I believe we run
> the risk of
> loosing primary
>
> >And as I CLEARLY stated before, I am against hams forming
> death squads
> to track
> >down baby monitors, portable phones and firebombing the
> local utilties.
> What I
> >am saying is that it is foolish to standby while clear rule
> violations
> are
> >taking place in part 15 AND those same rule violations are
> disrupting
> >legitimate amateur communications.
>
> But these users are not operating under part 15. They are unlicensed.
> Get unlicensed users shut down. Don't force licensed part 15 off the
> air.
>
> >Part 15 users and hams CAN and SHOULD get
> >along together. But this is a two way steet and the only time I am
> aware of
> >that hams pushed back was when the Part 15 WISP was completely
> uncooprative
> >(tried to claim he was running his ISP under Part 18).
>
> I am not arguing this... BTW, what is part 18?
>
> >Most WISP's are more
> >then willing to work with ham's to resolve problems. But you
> statement
> of
> >contacting the FCC before the ARRL takes all chance of working things
> out
> >without goverment involvement out of the picture. I think the FCC
> should only
> >be involved as a last resort.
>
> YES YES YES.
>
> But if that does not work, contact the FCC - at least if they are
> unlicensed because of illegal power or equipment.
>
> Darryl
>
>

> 
> ---
> You are currently subscribed to ss as: W1RFI@ARRL.ORG
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
> 
> 

---
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## 56. [ss] RE: ss digest: December 06, 2002

From: "Hare,Ed, W1RFI" <w1rfi@arrl.org>
Date: Mon, 9 Dec 2002 11:18:02 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110236-2002.12.09-11.03.07--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

A solar cooker is not a parabolic dish; it is a lens. It is not designed to focus energy in the far field, as is an antenna; it is designed to focus energy at a point that is clearly in the near field of the "antenna."

73,
Ed Hare, W1RFI
ARRL Lab
225 Main St
Newington, CT 06111
Tel: 860-594-0318
Internet: w1rfi@arrl.org
Web: http://www.arrl.org/tis

> -----Original Message-----
> From: Walt DuBose [mailto:dubose@texas.net]
> Sent: Saturday, December 07, 2002 1:32 AM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] RE: ss digest: December 06, 2002
> 
> 
> Darryl Smith wrote:
> >
> >
> > If you took a lens like this and tried to cook food using the sun it
> > would be quite hard. We are talking about a lens that looks almost
> > identical to a piece of glass here since the sun is so far away.
> >
> 
> Can you say solar oven and solar cooking.  I've boiled soup and
> cooked
> beans on a solar cooker that has a shiny dish reflector and a
> hook in
> the center of focus of the dish to hang a pot on.  I never looked
> at the
> physics of it, but the dang thing worked, except on cloudy days.
> But we
> have lots of sun up here in Texas.
> 
> Walt
> 
> ---
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> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
> 
> 

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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 57. [ss] Re: Cooking food with high EIRP?

From: "Hare,Ed, W1RFI" <w1rfi@arrl.org>
Date: Mon, 9 Dec 2002 11:23:06 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110237-2002.12.09-11.08.12--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Correct; in the far field, the field strenght for a 1000 W EIRP signal will be 20 dB higher than a 10 W EIRP signal.  However, at that point, it will not cook food.

As you get closer and closer to the source, the near-field effects will be such at the "gain" of the antenna is reduced.  Think of the lens and light -- it may focus energy at a point, but when you get close to the lens, the energy is still spread out.

73,
Ed Hare, W1RFI
ARRL Lab
225 Main St
Newington, CT 06111
Tel: 860-594-0318
Internet: w1rfi@arrl.org
Web: http://www.arrl.org/tis

> -----Original Message-----
> From: Geoff Edmonson [mailto:w5omr@w5omr.shacknet.nu]
> Sent: Saturday, December 07, 2002 7:30 AM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: Cooking food with high EIRP?
>
>
>
>
> > Just to put my 2 cents worth in ... 10 watts ( calorific
> heating value )
> > into a 20 db dish  still spits out 10 watts ( calorific
> heating value )  no
> > more energy is obtained !
>
> Tell that to the field strength meter.
>
>
>
>
> ---
> You are currently subscribed to ss as: W1RFI@ARRL.ORG
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
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## 58. [ss] RE: ss digest: December 06, 2002

From: Walt DuBose <dubose@texas.net>
Date: Mon, 09 Dec 2002 12:24:32 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110246-2002.12.09-13.08.56--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Oops.your right...but is looks like a dish antenna?  It pulls in
the suns rays and focuses them in a specific spot and the spot
gets hot.

So don't put your head in the receiving spot of a receiving dish
on 2.4 GHz, you might get bunred.

-- Walt/K5YFW

PS, Just pulling our leg Ed. Wanna hear my war story about what
the radar trasnmitter on an F-106 can to to matches and flash
bulbs at 30 ft?

"Hare,Ed, W1RFI" wrote:
>
> A solar cooker is not a parabolic dish; it is a lens. It is not designed to focus energy in the far field, as is an antenna; it is designed to focus energy at a point that is clearly in the near field of the "antenna."
>
> 73,
> Ed Hare, W1RFI
> ARRL Lab
> 225 Main St
> Newington, CT 06111
> Tel: 860-594-0318

> Internet: w1rfi@arrl.org
> Web: http://www.arrl.org/tis
>
> > -----Original Message-----
> > From: Walt DuBose [mailto:dubose@texas.net]
> > Sent: Saturday, December 07, 2002 1:32 AM
> > To: TAPR Spread Spectrum Special Interest Group
> > Subject: [ss] RE: ss digest: December 06, 2002
> >
> >
> > Darryl Smith wrote:
> > >
> > >
> > > If you took a lens like this and tried to cook food using the sun it
> > > would be quite hard. We are talking about a lens that looks almost
> > > identical to a piece of glass here since the sun is so far away.
> > >
> >
> > Can you say solar oven and solar cooking.  I've boiled soup and
> > cooked
> > beans on a solar cooker that has a shiny dish reflector and a
> > hook in
> > the center of focus of the dish to hang a pot on.  I never looked
> > at the
> > physics of it, but the dang thing worked, except on cloudy days.
> > But we
> > have lots of sun up here in Texas.
> >
> > Walt
> >
> > ---
> > You are currently subscribed to ss as: W1RFI@ARRL.ORG
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> >
>
> ---
> You are currently subscribed to ss as: dubose@texas.net
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## 59. [ss] RE: How can TAPR support SS development...

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Tue, 10 Dec 2002 10:10:18 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110273-2002.12.09-17.55.23--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Lets attempt to get this all back on track... It seems to me that
>
>       a) There are a lot of people out there experimenting
>               with 802.11 inside and outside the ham world.
>       b) A lot of these people have no idea about packet type networks
>               (which is what 802.11 is) nor about microwave

I'd agree on both counts.  And there's also...

c) A significant fraction of these people are interested in learning more or
experimenting with different aspects of the technology (antennas, access
point configurations, routing, etc).

> Given all this, and since this is a TAPR hosted list, I would like to
> solicit
> Some ideas from the members of this list... And given that not all the
> members
> Of TAPR have HAM licenses... What I want answered is
>
>       WHAT SHOULD *TAPR* BE DOING TO SUPPORT THIS ACTIVITY
>
> Should we be looking at some microwave hardware projects? A spectrum
> analyser kit? Antennas?

I can see a need for low level, low budget hardware projects.  Even things
as simple as 2.4 GHz field strength meters will be useful (how many 802.11b
experimenters have any idea of how their antenna is performing?  - answer:
almost none).  At some stage, we will also need more "high end" projects for

amateurs such as amplifiers, transverters and SS systems to go beyond what
802.11b offers.  Perhaps TAPR can offer some form of online resource as well
to serve both hams and non hams - fill the gap between the 802.11b info
sites and the ham microwave/SS experimenters.  Also, this list already acts
as a meeting place for SS interested people.  One problem I've noticed for
hams on the higher bands is getting information and liaising with others who
have similar interests.  That's one area where both the Internet linking
(IRLP, etc) and 802.11b camps have got it right.  They know how to leverage
the Internet for maximum benefit (in terms of behind the scenes support).

> Then we have a related question...
>
>       WHAT CAN YOU DO TO HELP *TAPR* ACHIEVE IT'S GOALS OF SUPPORTING
> SPREAD SPECTRUM?

Well, personally, I'm at the interface between the hams and the 802.11b
experimenters, so I feel I can help in a number of ways, from recruiting new
hams (who will have an interest in SS and high speed data) to putting them
in touch with TAPR (especially if some of these low end projects take off -
"Build the TAPR FS meter, it's what you need to tweak that antenna").
>
> Feel free to email me privately....

No probs.  At this stage, I'm happy to keep my discussion public.

---
Outgoing mail has been scanned for Viruses
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.427 / Virus Database: 240 - Release Date: 6/12/2002

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## 60. [ss] Re: Cooking food with high EIRP?

From: "Hare,Ed, W1RFI" <w1rfi@arrl.org>
Date: Mon, 9 Dec 2002 19:55:03 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110287-2002.12.09-19.40.10--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> No no no.
>
> When you -START- with 10w, and you feed that into a 9db gain
> antenna, you will
> have the equivalent of 80w at the received end.

Only if the antenna doing the radiating completely illuminates the capture area of the receive antenna.
  In the extreme near field of an antenna, the receive antenna is not fully illuminated by all of the
transmit antenna, so the fields are less than would be indicated by the EIRP.

And that 10 watts will never cook an entire hot dog, at any distance, any frequency or any antenna gain!

73,
Ed Hare, W1RFI
ARRL Lab
225 Main St
Newington, CT 06111
Tel: 860-594-0318
Internet: w1rfi@arrl.org
Web: http://www.arrl.org/tis

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http://www.arrl.org/news/features/inside-your-league.html. For more information about membership, go to
http://www.arrl.org/join.html.  Your contribution can also help support ARRL's ongoing efforts to
protect Amateur spectrum. Go to https://www.arrl.org/forms/development/donations/basic/ to learn more
about the ways you can support the ARRL programs and activities of most importance to you. You can help

ARRL protect Amateur Radio for you and future generations to enjoy.

> -----Original Message-----
> From: Geoff Edmonson [mailto:w5omr@w5omr.shacknet.nu]
> Sent: Sunday, December 08, 2002 5:55 PM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: Cooking food with high EIRP?
>
>
>
>
> > Hi Geoff The Key statement in the discussion in the ERP is
> that the gain
> > array field strength, is now " EQUIVALANT TO " ie your 10w
> into the 9db
>
> No no no.
>
> When you -START- with 10w, and you feed that into a 9db gain
> antenna, you will
> have the equivalent of 80w at the received end.
>
> 10W + 3db = 20W
> 20W + 3db = 40W
> 40W + 3db = 80W
>
> Effective Radiated Power out of a 9db gain antenna (ignoring losses in
> connectors/feedline) with 10W in, is 80W out.  With 100W in,
> that's nearly a
> kiloWatt out!
>
> Now, run two antennas together, one with no gain, the other
> with 9db gain, set
> the meters up at the far end, and now tell me which one will
> show more on the
> meter at the far end?
>
> >  a mind experiment to consider        put 10w at
> > 2.4 ghz  into a 10  foot dia dish , point it down a 10 foot
> dia steel tube
> > 100 foot long ,put another identicle 10 foot dia dish at
> the other end
> > connect  a bird wattmeter to the receiving dish feed point
> How many watts
> > are you going to read in the Bird wattmeter assuming no
> propagation loss of
> > RF ??????????10w ?????  if its more than 10w tell me where
> the extra energy
> > comes from  ???  cheers Mike
>
> If there's no gain in the Effective Radiated Power, then why
> bother with a gain
> antenna?
>
> The extra energy comes from the 'focusing', if you will, of
> the energy all in
> ONE direction, instead of letting all the energy go everywhere.
>
> 73 = Best Regards,
> -=Geoff/W5OMR=-
>
>
>
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## 61. [ss] Re: Cooking food with high EIRP?

From: "Hare,Ed, W1RFI" <w1rfi@arrl.org>
Date: Mon, 9 Dec 2002 20:12:23 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>

> I can't buy into the idea that 10w of RF eneregy, at 2.4GHz,
> or higher is safe within 10' of the antenna.

So, I ran EZNEC with a 2.4 GHz Yagi with 18 dBi of gain, in free space. I fed the antenna with 10 watts. I went 10 feet away with the near-field calculation. It showed that the field would be 45 volts/meter. The permitted exposure level is 61.4 volts/meter.

The field does increase as one gets closer to the antenna. At about 7 feet, the limit is exceeded.

If the power were 400 milliwatts, the Part 15 legal limit for an antenna of 18 dBi gain, the field would be 51.7 volts/meter 2 feet from the center of the antenna.

73,
Ed Hare, W1RFI
ARRL Lab
225 Main St
Newington, CT 06111
Tel: 860-594-0318
Internet: w1rfi@arrl.org
Web: http://www.arrl.org/tis

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> -----Original Message-----
> From: Geoff Edmonson [mailto:w5omr@w5omr.shacknet.nu]
> Sent: Sunday, December 08, 2002 10:15 AM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: Cooking food with high EIRP?
>
>
>
>
> > Hi Geoff, yes you are right the feild strength meter will
> read higher, no
> > doubt about that ! and it will if the ant is doing a good job but
>
> I knew there was gonna be a "but"! ;-)
>
> Let's have some fun with this (grinnin')
>
> > if you
> > think how an antenna gain array acheives an apparent
> increase in field
> > strength in wanted directions by enhancing the field
> strength at the
> > EXPENSE of field strength in other directions. thats the key !,
>
> For a beam, yes. We're talking about a Dish, with some gain,
> and focusing all
> the energy that 'was' going in different directions, into one
> direction.
>
> From what I read, it seems as if you're trying to say that
> "if you start with
> 10w, and you affix an antenna array, and measure the feild
> strength, then
> focus -all- the energy in one direction, then you are only
> going to see 10w" and
> I simply do -not- agree.
>
> > instead of sharing its energy out in a spherical shape
> where field strength is
> > identical at a fixed distance all around from the source.
>
> Are you saying that there are no vertical antennas (which
> radiate equally poor
> in -all- directions ;->) that have any gain? My 70cm mobile
> antenna has 6.3dbd
> (that's 6db of gain, over a referenced Dipole, which is 3db
> gain over an

> isotropic antenna).
>
> I can't buy into the idea that 10w of RF eneregy, at 2.4GHz,
> or higher is safe
> within 10' of the antenna.
>
> I think someone else here said it, and it's the way I
> believe, also - I think of
> a beam antenna as a magnifying glass for RF. a "focus", if
> you will, for the
> energy being generated.
>
> ERP means "Effective Radiated Power". Even vertical antennas
> can be configured
> to show 'gain' of up to 10db. Crunch that through the ERP
> formula (which slips
> my mind at this time - need more coffee ;->) and the
> Effective Radiated power
> will be more than the power generated by the transmitter.
>
> Roughly: 10W generated into a 9db gain antenna has an ERP of 80W.
> With 3db being the "twice power" point,
> 10W + 3db = 20W
> 20W + 3db = 40W
> 40W + 3db = 80W
> (this, assuming no losses per connector or transmission line)
>
> So, a "gain" vertical antenna vs. a vertical Dipole will
> increase the field
> strength by increasing the Effective Radiated Power,
> regardless of frequency.
>
> 73 = Best Regards,
> -=Geoff/W5OMR=-
>
>
>
> ---
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## 62. [ss] Re: ISP Proposal and Illegal operation

From: "Hare,Ed, W1RFI" <w1rfi@arrl.org>
Date: Mon, 9 Dec 2002 20:17:26 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110291-2002.12.09-20.02.31--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> OK... The regulatory system in Oz is a bit different... Anyway I have
> just read up on some of Part 15, and I have come to the following
> conslusion

> Some Part 15 services are licensed and some are not.

Actually, no. No Part 15 operating is licensed. Part 15 transmitters all must be Certificated, but that applies to the baby monitor and the SS device alike. Not all emitters have to be Certificated, though -- there is a whole range between incidental emitters, which have no specific requirements other than to use good engineering practice and to be operated in a way that doesn't cause harmful interference to intentional emitters which have to be Certificated. (Most Part 97 operation doesn't require Certification, with the exception of HF/6 M power amplifiers.)

For info, see http://www.arrl.org/tis/info/part15.html.

73,
Ed Hare, W1RFI
ARRL Lab
225 Main St
Newington, CT 06111
Tel: 860-594-0318
Internet: w1rfi@arrl.org
Web: http://www.arrl.org/tis
>

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## 63. [ss] Re: Cooking food with high EIRP?

From: "Hare,Ed, W1RFI" <w1rfi@arrl.org>
Date: Mon, 9 Dec 2002 20:29:05 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110292-2002.12.09-20.14.12--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> So, if you get near 1 KW EIRP in the near field of a dish, you WILL cook
> food. Or you head.

But you can't get 10 feet away from a 30-foot diameter dish. :-) If you are, most of the beamwidth of that antenna is NOT illuminating you. That is the whole premise about near-field radiation; you are never near all of a very large antenna.

73,
Ed Hare, W1RFI
ARRL Lab
225 Main St
Newington, CT 06111
Tel: 860-594-0318
Internet: w1rfi@arrl.org
Web: http://www.arrl.org/tis

> -----Original Message-----
> From: Ron Hashiro [mailto:rhashiro@verizon.net]
> Sent: Saturday, December 07, 2002 4:14 AM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: Cooking food with high EIRP?
>
>
> I concur with Lawrence.
>
> If I recall correctly, the first demonstration of food cooking was at
> Raytheon,
> where someone popped popcorn kernals by hold it in the path
> of a 40 watt
> microwave
> amplifier output.
>
> A high powered residential microwave (such as the 1 KW
> Panasonic Microwaves)
> puts out 1000 Watts (look at the label) in the 2.4 GHz ISM
> band.  2.4 GHz is
> used because the components are cheaper than Ku Band or 65
> GHz, where there
> are peaks in water absorption.
>
> So, if you get near 1 KW EIRP in the near field of a dish,
> you WILL cook
> food.
> Or you head.
>
> Don't be fooled.  Ten watts, into 20 dB gain, is 1,000 watts.
>  Be careful.
>
> Lawrence Stoskopf wrote:
>
> >But I do remember about 1957 seeing at Kansas State's
> Engineering Open
> >House someone cooking a hot dog over the end of an open
> waveguide right
> >out of some sort of surplus RF generator.  Wasn't
> sophisticated enough
> >at the time to do anything but say, "WOW!"
> >
> >N0UU
> >
> >>Gotta' be careful tossing around claims about RF safety,
> because a bit of careful analysis usually shows that RF
> safety is not an issue. It is almost impossible for a Part 15
> device to exceed the FCC limits.  It is nearly as hard for an
> amateur, even running 1000 watts to a 30-meter dish! :-)
> >>

> 
> 
> 
> ---
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## 64. [ss] Re: Use of 2.4 GHz Under Part 97

From: "Hare,Ed, W1RFI" <w1rfi@arrl.org>
Date: Mon, 9 Dec 2002 20:36:58 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110294-2002.12.09-20.22.07--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> While is am a bit disappointed at how the League has decided to
> use this money, I believe that the mere fact that we received the
> money and especially the amount of money is a clear indication of
> our worth.

The money was not received with "few strings attached." ARRL applied for this grant for specific purposes, based in part on the pre-application discussions about the scope of the grant money and what types of things were apt to be funded.  The League simply must use the money for exactly what it said it would do.

I agree that the grant is a clear indication of the value of amateur radio to the nation. And in getting this "buy in" by the Feds, I believe that amateur radio's position is strengthened across the board. The funds are going to be used to train volunteers in emergency communications techniques.  In what way do you feel the money could have been better spent towards homeland security?

See:

http://www.arrl.org/news/stories/2002/07/18/102/

http://www.arrl.org/pio/press_releases/fed-grant.html

Off topic, guys; I will let someone else have the last word, if they wish.

73,
Ed Hare, W1RFI
ARRL Lab
225 Main St
Newington, CT 06111
Tel: 860-594-0318
Internet: w1rfi@arrl.org
Web: http://www.arrl.org/tis

> -----Original Message-----
> From: Walt DuBose [mailto:dubose@texas.net]
> Sent: Saturday, December 07, 2002 1:26 AM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: Use of 2.4 GHz Under Part 97
> 
> 
> I have changed the subject but want to let you know my feelings
> about the subject.
> 
> First, the ARRL received a rather large sum of money from the
> federal government's homeland security fund.  Few non-aligned
> organizations have received money from this fund with few
> "strings" attached.
> This tells me that the administration acknowledges the value and
> worth of amateur radio operators and desires to see them improve
> the organization.  Please note that no WiFi organization has
> received this kind of money.
> 
> While is am a bit disappointed at how the League has decided to
> use this money, I believe that the mere fact that we received the
> money and especially the amount of money is a clear indication of
> our worth.
> 
> Anything that we do to improve our communications capability will

> be noticed.  Being able to use existing technology in an improved
> way will be most certainly be recognized.
>
> As hams certainly we know that the more reliable you can make a
> communications media, the better it is for the user.  And when
> you design a system that can in an emergency be used to replace
> lost communications, you are going to be noticed.
>
> I see no such movement in the WiFi community.
>
> If we make a big splash and Washington knows about it, we have
> the advantage.
>
> In D.C. its not what you know or who you know, its do you have
> the advantage
> or what can you do for the administration that makes it look good
> and still
> benefits the nation.
>
> How the "Hill" is running today is very different than during the
> Clinton
> administration.
>
> Walt
>
> ---
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>
>

---
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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 65. [ss] Re: ISP Proposal and Illegal operation

From: "Hare,Ed, W1RFI" <w1rfi@arrl.org>
Date: Mon, 9 Dec 2002 20:41:47 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110295-2002.12.09-20.26.54--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> I am not arguing this... BTW, what is part 18?

Part 18 are the US rules for Industrial, Scientific and Medical equipment. 2.4 - 2.4835 GHz is ISM territory. ISM devices can radiate unlimited power in the ISM bands and no other user has any recourse for interference. ISM cannot be used to transmit information, but includes such devices as microwave ovens and heat sealers.

73,
Ed Hare, W1RFI
ARRL Lab
225 Main St
Newington, CT 06111
Tel: 860-594-0318
Internet: w1rfi@arrl.org
Web: http://www.arrl.org/tis
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 66. [ss] RE: How can TAPR support SS development..."Build the TAPR FS meter"

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Tue, 10 Dec 2002 16:58:40 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110318-2002.12.10-00.47.36--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Tony Langdon <tlangdon@atctraining.com.au> noted

>I can see a need for low level, low budget hardware projects.  Even
>things as simple as 2.4 GHz field strength meters will be useful
>(how many = 802.11b experimenters have any idea of how their antenna
>is performing?  answer: almost none).

OK. People. We have a challenge here... How do we go about actually
getting a relative field strength meter designed for the 2.4 GHZ? I am

sure someone on this list knows how to do the RF front end and get a
voltage out. It cant be too hard. I can do some of the work once we have
a sensor that works. Probably some GaAs diode would work.

As for some ideas of what is out there I have included some links. BUT
the reason for a project like this one is for the people working on it
to actually discover that they like getting their hands dirty. When you
build it yourself you usually understand more about it.

So who is going to do the RF side?

Darryl

------------------
http://www.northcountryradio.com/Kitpages/rffsm.htm
http://www.safetyhero.com/mall/microproducts.asp
http://www.comforthouse.com/comfort/micleakdetwi.html

---------
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

---
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## 67. [ss] DCC Articles

From: "John Champa" <k8ocl@hotmail.com>
Date: Tue, 10 Dec 2002 07:08:47 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110332-2002.12.10-06.53.55--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Darryl,

I have taken the liberty of posting your call for articles on the ARRL HSMM
Reflector in the hope of encouraging the working group members to also
contribute articles to the DCC.

In fact Paul and I are already working on a second draft of an article we
hope to submit.

Another topic I would like to suggest is the use of ITU H.323 for ATV, voice
QSOs, applications sharing, or remote control.  This software is  available
as part of Windows (NetMeeting).  It is frequently used to conduct
videoconferences over IP networks using inexpensive webcams.

Vy 73,
John - K8OCL

_____
Help STOP SPAM with the new MSN 8 and get 2 months FREE*
http://join.msn.com/?page=features/junkmail

---
You are currently subscribed to ss as: lyris.ss@tapr.org
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## 68. [ss] Fwd: Register now: Intelligent Wireless LAN TechTalk

From: "John Champa" <k8ocl@hotmail.com>
Date: Tue, 10 Dec 2002 07:25:04 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110334-2002.12.10-07.10.07--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Possible interest...

From: Cisco Systems Inc <wrlsssoaptt@mail.ciscomessage.com>
To: k8ocl@hotmail.com
Subject: Register now: Intelligent Wireless LAN TechTalk
Date: Mon,  9 Dec 2002 22:22:23 -0500 (EST)

Dear John J Champa,

Register now at http://www.cisco.com/go/semreg/soaptt/113706_27
to talk LIVE with Cisco wireless networking experts at the next
Networking Professionals Online TechTalk, "Architecting the
Intelligent Wireless LAN," on December 11, 2002, at 10:00 a.m.
Pacific Time.

Topics include:

* Structured wireless LAN architecture
* Security and QoS
* Enterprise-class services
* Wireless VLANs and Mobile IP
* Cisco Aironet Access Points

Don't miss this opportunity to engage with Cisco wireless
networking experts and other networking professionals. You
must be registered to attend, so visit
http://www.cisco.com/go/semreg/soaptt/113706_27 today.

If you have colleagues who are interested in wireless networking,
please share this e-mail with them after you register.

Sincerely,
Cisco Systems, Inc.

You have been sent this message because you have indicated that
you wish to receive e-mail updates on Cisco products and special
offerings. If you would prefer not to receive news about special
promotions from Cisco in the future, please visit
http://www.cisco.com/offer/unsubscribe .

To receive future e-mail updates on Cisco products and special
offerings, please visit http://www.cisco.com/offer/subscribe .

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respective owners. The use of the word partner does not
imply a partnership relationship between Cisco and any
other company. (0207R)

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_____
The new MSN 8: advanced junk mail protection and 2 months FREE*
http://join.msn.com/?page=features/junkmail

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 69. [ss] Re: DCC Articles

From: "Geoff Edmonson" <w5omr@w5omr.shacknet.nu>
Date: Tue, 10 Dec 2002 06:43:13 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110337-2002.12.10-07.28.28--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Another topic I would like to suggest is the use of ITU H.323 for ATV, voice
> QSOs, applications sharing, or remote control. This software is available
> as part of Windows (NetMeeting). It is frequently used to conduct
> videoconferences over IP networks using inexpensive webcams.

What's the Linux equivalent, John?

--
73 = Best Regards,
-=Geoff/W5OMR=-

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 70. [ss] Re: DCC Articles

From: Thomas Sailer <sailer@scs.ch>
Date: 10 Dec 2002 14:15:25 +0100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110338-2002.12.10-08.00.32--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Tue, 2002-12-10 at 13:43, Geoff Edmonson wrote:

> What's the Linux equivalent, John?

GnomeMeeting?

Although we use MPEG2/DVB for Digital Amateur TV.

Tom

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 71. [ss] Re: DCC Articles

From: "Geoff Edmonson" <w5omr@w5omr.shacknet.nu>
Date: Tue, 10 Dec 2002 07:22:59 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110339-2002.12.10-08.08.13--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> On Tue, 2002-12-10 at 13:43, Geoff Edmonson wrote:
>
> > What's the Linux equivalent, John?
>
> GnomeMeeting?
>
> Although we use MPEG2/DVB for Digital Amateur TV.

Is there anything that works from the command line, as
I am -not- a fan of "gui's"

73 = Best Regards,
-=Geoff/W5OMR=-

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 72. [ss] Re: DCC Articles

From: "Geoff Edmonson" <w5omr@w5omr.shacknet.nu>
Date: Tue, 10 Dec 2002 07:25:29 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110340-2002.12.10-08.10.45--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> On Tue, 2002-12-10 at 13:43, Geoff Edmonson wrote:
>
> > What's the Linux equivalent, John?
>
> GnomeMeeting?
>
> Although we use MPEG2/DVB for Digital Amateur TV.

http://www.openh323.org/

---
You are currently subscribed to ss as: lyris.ss@tapr.org

To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 73. [ss] Re: DCC Articles

From: David Wilson <david@wwns.com>
Date: Tue, 10 Dec 2002 07:31:19 -0600 (CST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110341-2002.12.10-08.18.03--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

IMHO Netmeeting is a good example of exceptionally poor design.
Anyone that runs a firewall will probably cringe when you mention
the requirements.

As far as H.323 is concerned check out http://www.h323.org or
http://www.openh323.org.

Dave

Geoff Edmonson wrote...
>
> > Another topic I would like to suggest is the use of ITU H.323 for ATV, voice
> > QSOs, applications sharing, or remote control.  This software is  available
> > as part of Windows (NetMeeting).  It is frequently used to conduct
> > videoconferences over IP networks using inexpensive webcams.
>
>
> What's the Linux equivalent, John?
>
>
> --
> 73 = Best Regards,
> -=Geoff/W5OMR=-
>
>
>
> ---
> You are currently subscribed to ss as: david@wwns.com
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>

--
David R. Wilson  WB4LHO
World Wide Network Services
Nashville, Tennessee USA        Need QSL cards?
david@wwns.com                  http://store.wwns.com/lz1jz

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 74. [ss] RE: How can TAPR support SS development..."Build the TAPR FS meter"

From: "Hare,Ed, W1RFI" <w1rfi@arrl.org>
Date: Tue, 10 Dec 2002 08:35:57 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110342-2002.12.10-08.21.05--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The simplest relative field strength meter is a receiver connected to an antenna and switchable to a dummy load. If you know the receiver's sensitivity and antenna gain you can measure the increase in receiver output with a true-RMS voltmeter, first with no signal present, then with the receiver connected to an antenna and the signal being measured present.

An "AM/SSB" mode receiver can be used. The ARRL Lab has an Icom R3 that tunes 2.4 GHz and is relatively useful.  It is not well shielded, though, and it has a lot of spurious responses, so it truly is just "relatively" useful.  A step attenuator in front of the receiver can help keep the signal in the linear range of the receiver, or the S meter can be pre-calibrated against a good signal generator. (This has its limits, because the acual gain of the IF strip could change by several dB with time or temperature, but it is a reasonable good approximation.)

For more accurate measurements, a better-shielded receiver is a must. The ARRL Lab is just polishing up a test method to use an Icom PCR-1000 and a DEM transverter to get some good measurements on 2.4 GHz. The receiver also has spurious responses, but we found a bandpass filters for 2.4 GHz that really do tame it down.

If, for example, you know that your receive system has a sensitivity of minus135 dBm in 3000 Hz

bandwidth, and you measure an increase in receiver output of 15 dB when a signal is present, you know that the signal is just about minus 120 dBm average power in that bandwidth. (I say just about because if you get a measurement of signal at -120 dBm, you have to subtract the -135 dBm receiver noise level to get the actual signal level. If the measured level is >10 dB higher than the receiver output level, the error by just doing a simple difference calculation is less than 0.5 dB.)

For narrowband signals (ie carriers or birdies), this is an exact measurement of the signal level. The RMS voltage can be used to calculate average power, and for a carrier, average power and PEP are the same. For broadband signals, the power you measure will be dependent on the bandwidth. Most broadband signals are noiselike in a narrow bandwidth, the PEP and average power is not the same. It is not possible to get a precise measurement of the peak power in a narrow bandwidth without either knowing a lot about the nature of the signal or by making lots of measurements in arbitrary chunks of the bandwidth, running the result through a whole series of FFTs, putting them all back together and using DSP to calculate the original signal.

This may not be necessary, though, if you are willing to live with some slop in the end result. If the signal were broadband gaussian noise, if memory serves, the peak-to-average ratio of that signal would be 9.4 dB (any noise experts here, please chime right in!) If one were hearing a noiselike signal and presumed that the peak-to-average ratio were 9.4 dB, one wouldn't be far off in most cases. And, in the C63.4 standard, measurements made above 1 GHz are made using an average detector, so the average power measurement is correct. For lower frequencies, where the peak signal is measured, a reasonable approximation for most noiselike signals would be obtained by assuming the peak to be 9.4 dB higher than the average in relatively narrow bandwidth.

It is not possible to get a precise correlation between the average power of a complex in a wide bandwidth by making a meaurement in a narrow bandwidth unless one knows a lot about the signal being measured. C63.4 stipulates a measurement bandwidth of 1 MHz for signals above 1 GHz (I am working from memory at home here, so chime in if I am remembering wrong!). The measurement made in a 3 kHz bandwidth will be approximately 10log(1000000/3000) less than what would be obtained by the same signal meausured in a 1 MHz bandwidth. (This is approximate because the signal may not be evenly spread out in 3 kHz segments across the entire bandwidth).

So if you determine an acutal signal level, either as average power in a narrow bandwidth, or extrapolated to a wider bandwidth and/or peak power, this can then be related to the actual field strength by a simple calculation

dbuv/m = 77.2 + signaldBm - antgaindBi + lossdB + 20log(FMHz)

Although there are a few assumptions made in this method to obtain the RMS or peak value of a broadband measured field, it is probably as good as one can expect using simple equipment. And, for the most part, the simple equipment can be the station receiver and an RMS-reading voltmeter and sound card. There are a few more caveats -- this doesn't account for polarization mismatch, near field effects (oh, no -- not THAT again) or the fact that the measurement point may not be in the main beam of the transmit antenna. This means you may not be making a measurement of the maximum field radiated by that station, but you are making a reasonable meaurement of the field *at the measurement point*.

Darts welcome; I am posting from home and don't have access to all of my notes on the method. This one is nearly ready for prime time. I have a DEM transverter in the works and want to do some measurements on 2.4 GHz. I have also done some successful measurements of power line noise on 3.5 MHz. The article is nearly done and the software to control a PC and sound card and the PCR-1000 is in pretty good shape, though the purists will hate me for having written in in Quick Basic. :-)

73,
Ed Hare, W1RFI

-----Original Message-----
From: Darryl Smith [mailto:Darryl@radio-active.net.au]
Sent: Tue 12/10/2002 12:58 AM
To: TAPR Spread Spectrum Special Interest Group
Cc:
Subject: [ss] RE: How can TAPR support SS development..."Build the TAPR FS meter"

> Tony Langdon <tlangdon@atctraining.com.au> noted
>
> >I can see a need for low level, low budget hardware projects. Even
> >things as simple as 2.4 GHz field strength meters will be useful
> >(how many = 802.11b experimenters have any idea of how their antenna
> >is performing? answer: almost none).
>
> OK. People. We have a challenge here... How do we go about actually
> getting a relative field strength meter designed for the 2.4 GHZ? I am
> sure someone on this list knows how to do the RF front end and get a
> voltage out. It cant be too hard. I can do some of the work once we have
> a sensor that works. Probably some GaAs diode would work.
>
> As for some ideas of what is out there I have included some links. BUT
> the reason for a project like this one is for the people working on it

to actually discover that they like getting their hands dirty. When you
build it yourself you usually understand more about it.

So who is going to do the RF side?

Darryl

------------------
http://www.northcountryradio.com/Kitpages/rffsm.htm
http://www.safetyhero.com/mall/microproducts.asp
http://www.comforthouse.com/comfort/micleakdetwi.html

---------
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au



---
You are currently subscribed to ss as: W1RFI@ARRL.ORG
To unsubscribe send a blank email to leave-ss-4745F@lists.tapr.org

## 75. [ss] Re: DCC Articles

From: dubose@texas.net
Date: Tue, 10 Dec 2002 08:15:26 US/Central
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110352-2002.12.10-09.00.32--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Darryl,
>
> I have taken the liberty of posting your call for articles on the ARRL HSMM
> Reflector in the hope of encouraging the working group members to also
> contribute articles to the DCC.
>
> In fact Paul and I are already working on a second draft of an article we
> hope to submit.
>
> Another topic I would like to suggest is the use of ITU H.323 for ATV, voice
> QSOs, applications sharing, or remote control.  This software is  available
> as part of Windows (NetMeeting).  It is frequently used to conduct
> videoconferences over IP networks using inexpensive webcams.
>
> Vy 73,
> John - K8OCL
>

Also, H323 is available via OpenSource at http://www.openh323.org  If you don't
have NetMeeting, the site will have downloads for MS, Linux and Unix OSs.

Joshua, KD5LSX, has am H323 Echo Server on-line.  It will echo about 10 seconds
of your audio back to you.  Its really nice to check out your system.

The H323 suite offers a server for multiple user connections as well as peer to
peer connections.  Audio and video work nicely.

This looks like software written by a ham for hams; but, I'm sure that other
folks can appreciate its functionalitity.

Walt/K5YFW


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 76. [ss] Re: DCC Articles

From: dubose@texas.net
Date: Tue, 10 Dec 2002 08:19:22 US/Central
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110353-2002.12.10-09.04.26--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> > Another topic I would like to suggest is the use of ITU H.323 for ATV,
voice
> > QSOs, applications sharing, or remote control.  This software is  available
> > as part of Windows (NetMeeting).  It is frequently used to conduct
> > videoconferences over IP networks using inexpensive webcams.

>
>
> What's the Linux equivalent, John?
>
>
The H323 standard is available OpenSource for MS, Linux and Unix at
http://www.openh323.org

Walt/K5YFW


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 77. [ss] Re: DCC Articles

From: Bill Vodall - WA7NWP <wa7nwp@yahoo.com>
Date: Tue, 10 Dec 2002 08:48:02 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110366-2002.12.10-11.34.00--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> > Another topic I would like to suggest is the use of ITU H.323 for ATV, voice
> > QSOs, applications sharing, or remote control.  This software is  available
> > as part of Windows (NetMeeting).  It is frequently used to conduct
> > videoconferences over IP networks using inexpensive webcams.
>
>What's the Linux equivalent, John?


H323 is a beast..  Check out http://www.speakfreely.org  A lightweight application
that's open and works well through firewalls.  This is, I believe, the basis of both
IRLP and Echolink.  The IM part of the solution is Jabber,  http://www.jabber.org which
is another open and rapidly evolving software solution.

Bill, WA7NWP



---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 78. [ss] RE: How can TAPR support SS development..."Build the TAPR FS meter"

From: Anthony.N.Martin@marconimobile.com
Date: Tue, 10 Dec 2002 17:40:04 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110369-2002.12.10-12.40.39--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

OK. People. We have a challenge here... How do we go about actually
getting a relative field strength meter designed for the 2.4 GHZ?

Great idea!

A dipole, a schottky diode, and a meter should work fine.
That's what the Kent ATV antenna expert recommends.
You probably need sensitivity to detect 1mW to 100mW.
You don't want it to be damaged if you hold it near a dipole
with 10W up it.

You could add a 2.4GHz amp chip to increase sensitivity;
don't use an LNA as the damage levels are typically
around 7dBm; use a PA-driver or other general purpose
amp. I've got a couple of minicircuits MAV-11 MMICs but
it's not a good choice; gain is dropping steeply at 2.5GHz
and only 6.1 dB.


If you wish to get accurate antenna gain measurements, put
a quality attenuator in the Tx feeder, and adjust for identical
field strength indications vs. a reference dipole.

What are the devices used to check leakage of microwave
ovens? The max. leakage permitted from ovens is 1mW;
wouldn't they do the job?

Now, how do you make an 802.11 WLAN device transmit as much
as possible to give you field to measure? Possibly by some piece

of software that makes it send a continuous stream of broadcast
packets so you don't need any other WLANs nearby that may upset
your readings.

Can anyone sort this bit out?

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 79. [ss] Re: FWIW: "Feds Label Wi-Fi a Terrorist Tool"

From: Anthony.N.Martin@marconimobile.com
Date: Tue, 10 Dec 2002 18:21:19 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110370-2002.12.10-13.06.06--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> FWIW via ACM Tech News:

> "Feds Label Wi-Fi a Terrorist Tool"

The other side of the coin is that communications are
also a tool for peacemaking.

Is it not a goal of amateur radio to foster better
international relations through communication?

Spreading internet access through open wireless comms
in poorer nations would be a great positive good that
amateurs could do. Be highly resistant of any politics-
of-the-day that restricts amateurs operating within
their mandate.

Remember that so-called "cyber-terrorism" is a myth.
No such act has ever occurred, potential for death and
destruction by computer is non-existant, and such methods
have negligible value to a terrorist aresenal.

I don't want to see partisan politics messing with the
international nature of amateur radio.

We already have adequate law in most nations that makes
it illegal to assist in a crime, and that would include
sending messages in support of a crime.

In western culture we don't restrict people's freedoms
to make sure thay can't commit crime. We use deterrents
and convict them after they commit crime. Then we restrict
their freedoms with a prison sentence.

Security is frequently ineffective against terrorism.
Could you recognise a terrorist if he requested access?
They do not arrive in mini-subs and wetsuits and hook
up to your WLAN with a military laptop... they are ordinary
people; you cannot tell a terrorist from adam. To stop
terrorists blowing up planes, you don't search for
terrorists, you search for bombs.

It would be valid to state that poor use of Wi-Fi could
be a massive corporate liability. Availaibility of WLAN
isn't guaranteed and users must be ready to accept
interference (read the 1st page of the handbook). As it
is not a protected business service, it would be
irresponsible for business to stake trading and profit
on WLAN. It is concerning that these things are being
hawked as business-class network solutions. The concept
of profit-making WLAN ISPs is very risky and should
keep investors away. (In the UK we have slices of
spectrum at 3.4GHz on offer for wireless ISPs but
no takers.) Free WLAN in bus-stations, tube-trains,
hotels & shopping malls as a customer incentive is a
great idea though:-)

Anyhow, I'm sure you americans can kick your own

politicians' asses well enough; we have enough political
asses to kick of our own over this side of the pond.

Back to the hardware...  M1FDE

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 80. [ss] Re: FWIW: "Feds Label Wi-Fi a Terrorist Tool"

From: "Pinfold" <pinfold@xtra.co.nz>
Date: Wed, 11 Dec 2002 07:33:18 +1300
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110372-2002.12.10-13.20.40--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Some one is always trying to grandstand! anyway they can, if it maintains or
helps their position in their job $$!
   eg  "Feds Label grandmas bedsocks as a Terrorist Tool"        "Federal
Agenccies are extremely concerned that the bedsocks of grandmothers of
dissidents can by used to make molatov cocktails.....   where does it
end? HaHa  Mike ZL1BTB
----- Original Message -----
From: <Anthony.N.Martin@marconimobile.com>
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Sent: Wednesday, December 11, 2002 7:21 AM
Subject: [ss] Re: FWIW: "Feds Label Wi-Fi a Terrorist Tool"


>
> > FWIW via ACM Tech News:
>
> > "Feds Label Wi-Fi a Terrorist Tool"
>
> The other side of the coin is that communications are
> also a tool for peacemaking.
>
> Is it not a goal of amateur radio to foster better
> international relations through communication?
>
> Spreading internet access through open wireless comms
> in poorer nations would be a great positive good that
> amateurs could do. Be highly resistant of any politics-
> of-the-day that restricts amateurs operating within
> their mandate.
>
> Remember that so-called "cyber-terrorism" is a myth.
> No such act has ever occurred, potential for death and
> destruction by computer is non-existant, and such methods
> have negligible value to a terrorist aresenal.
>
>
> I don't want to see partisan politics messing with the
> international nature of amateur radio.
>
> We already have adequate law in most nations that makes
> it illegal to assist in a crime, and that would include
> sending messages in support of a crime.
>
> In western culture we don't restrict people's freedoms
> to make sure thay can't commit crime. We use deterrents
> and convict them after they commit crime. Then we restrict
> their freedoms with a prison sentence.
>
> Security is frequently ineffective against terrorism.
> Could you recognise a terrorist if he requested access?
> They do not arrive in mini-subs and wetsuits and hook
> up to your WLAN with a military laptop... they are ordinary
> people; you cannot tell a terrorist from adam. To stop
> terrorists blowing up planes, you don't search for
> terrorists, you search for bombs.
>
> It would be valid to state that poor use of Wi-Fi could
> be a massive corporate liability. Availaibility of WLAN
> isn't guaranteed and users must be ready to accept
> interference (read the 1st page of the handbook). As it

> is not a protected business service, it would be
> irresponsible for business to stake trading and profit
> on WLAN. It is concerning that these things are being
> hawked as business-class network solutions. The concept
> of profit-making WLAN ISPs is very risky and should
> keep investors away. (In the UK we have slices of
> spectrum at 3.4GHz on offer for wireless ISPs but
> no takers.) Free WLAN in bus-stations, tube-trains,
> hotels & shopping malls as a customer incentive is a
> great idea though:-)
>
>
> Anyhow, I'm sure you americans can kick your own
> politicians' asses well enough; we have enough political
> asses to kick of our own over this side of the pond.
>
> Back to the hardware...  M1FDE
>
>
>
>
> ---
> You are currently subscribed to ss as: PINFOLD@XTRA.CO.NZ
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 81. [ss] RE: How can TAPR support SS development..."Build the TAPR FS meter"

From: Jeff King <jeff@aerodata.net>
Date: Tue, 10 Dec 2002 13:43:29 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110374-2002.12.10-13.29.08--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Tue, 10 Dec 2002 17:40:04 +0000, Anthony.N.Martin@marconimobile.com wrote:
>
>OK. People. We have a challenge here... How do we go about actually
>getting a relative field strength meter designed for the 2.4 GHZ?
>
>Great idea!
>
>A dipole, a schottky diode, and a meter should work fine.

I made something like this for 10ghz gunplexer's  (10dBi horn)  using a tiny
dipole with a 1N23 in the middle. Could get indications up to about 10 feet
away. So I think your idea here for 2.4ghz is a good one.

>You could add a 2.4GHz amp chip to increase sensitivity;
>don't use an LNA as the damage levels are typically
>around 7dBm; use a PA-driver or other general purpose
>amp. I've got a couple of minicircuits MAV-11 MMICs but
>it's not a good choice; gain is dropping steeply at 2.5GHz
>and only 6.1 dB.

Good idea.


>What are the devices used to check leakage of microwave
>ovens? The max. leakage permitted from ovens is 1mW;
>wouldn't they do the job?

Would think so. Where can you buy one of these beastie's? I'll try and grab
one if they are a commodity item available in the stores.


>Now, how do you make an 802.11 WLAN device transmit as much
>as possible to give you field to measure? Possibly by some piece
>of software that makes it send a continuous stream of broadcast
>packets so you don't need any other WLANs nearby that may upset
>your readings.

Set netstumbler on very fast polling? Still going to be short packets....I'd
think you would need a peak reading meter or storage scope to get the actual
level's.

Lots of good ideas here in your message. Thanks!

-Jeff

---
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## 82. [ss] Re: How can TAPR support SS development...

From: Anthony.N.Martin@marconimobile.com
Date: Tue, 10 Dec 2002 18:48:52 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110375-2002.12.10-13.33.48--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> WHAT SHOULD *TAPR* BE DOING TO SUPPORT THIS ACTIVITY

I think there are 2 aspects to this...

The whole point of being a group is to apply
resources to problems that individuals don't have,
or to use the combined voice to get action from
other organisations. It should also have an
organisational role for events & such.

There is stuff that individuals can do themselves
if motivated, so perhaps TAPR needen't be doing this,
except to co-ordinate, share and reduce duplication.

Some ideas...

How about a WLAN unplugfest? particularly to test out
features important to amateurs, like interoperability
and compliance of 802.1D bridging...

Do we need to comission drivers for some WLAN chipsets
for Linux, or broker the release of technical data from
suppliers that would allow them to be written? In some
cases this is preventing some low-cost APs being used
in networks.

Linux support for USB WLAN devices is also missing.
I'm told they're great dish feeds.

Within the 802.x series there are checklists called
the "PICS proforma" that manufacturers are required
to complete to claim 802.x compliance. The purpose of
these is said to enable users to determine the
interoperability of products. Now I've never seen
a completed PICS form for any WLAN product. Why? Can
TAPR press for them to be released?

How about an exchange for the borrowing of hardware
for the purpose of demonstration, software testing,
network testing etc?

Do you think there should be a european TAPR
equivalent, and would TAPR have a role in helping
set one up? There are few europersons on SS-SIG;
not thru lack of SS or WLAN in europe. Is TAPR
not serving their needs well? Certainly conferences
in the USA aren't very helpful.

Should there be established spread-spectrum bands
in the national band-plans, is this a job for TAPR?

Some quick ideas to bounce around...
Ant M1FDE

---

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## 83. [ss] Re: DCC Articles

From: Gerry Creager <gerry.creager@tamu.edu>
Date: Tue, 10 Dec 2002 09:46:40 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110376-2002.12.10-13.35.55--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

OpenH323.org, and their simple app, ohphone. Careful: Long compile
times, but it works pretty well! Check out, also, gnomemeeting.

gerry

Geoff Edmonson wrote:
>>Another topic I would like to suggest is the use of ITU H.323 for ATV, voice
>>QSOs, applications sharing, or remote control. This software is available
>>as part of Windows (NetMeeting). It is frequently used to conduct
>>videoconferences over IP networks using inexpensive webcams.
>
>
>
> What's the Linux equivalent, John?
>
>
> --
> 73 = Best Regards,
> -=Geoff/W5OMR=-
>
>
>
> ---
> You are currently subscribed to ss as: gerry.creager@tamu.edu
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org


--
Gerry Creager -- gerry.creager@tamu.edu
Network Engineering -- AATLT, Texas A&M University
Office: 979.458.4020 FAX: 979.847.8578
Cell: 979.229.5301 Pager: 979.228.0173



---
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## 84. [ss] Re: DCC Articles

From: "Geoff Edmonson" <w5omr@w5omr.shacknet.nu>
Date: Tue, 10 Dec 2002 13:10:48 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110381-2002.12.10-13.55.43--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> OpenH323.org, and their simple app, ohphone. Careful: Long compile
> times, but it works pretty well! Check out, also, gnomemeeting.

Ohphone worked "out of the box" for me, this morning.

I do mostly everything on a windows machine. The linux machine is my
gateway/router/switch/ and web/mail/ssh/sftp server.

Where I do anything on Linux, is at the command line.

downloading and simply running Ohphone allowed the Windows program "Netmeeting"
to work, and the two communicated quite nicely.

Of course, I didn't try anything outside of the local network, but could detect
minimal delay on the 100Mb/s Lan ;-)

Looking more carefully at speakfree now, since that's also what the IRLP folk
are using.

Idealy, I'd like to run IRLP reflector software here on my linux machine and
have remote systems be able to connect to the then 'local' reflector, with a UHF
Linked-repeater system in the South Central Texas area and it's 9 'satelites',
linked to the greater Metro Houston Linked Repeater system and around as many

inputs.

2 connections, 18 repeaters, linking an area of South Texas from Pipe Creek to
Beaumont, from Austin to Corpus and all points inbetween.

Add 1 more connection to the Colorado reflector and a HUGE mass of land becomes
available via IRLP.

At least that's my plan.

sorry for the rambling - I forget where I am, sometimes.  IRLP don't have
anything to do with Spread Spectrum, but running h.323 over 802.11b is exciting,
also ;-)

73 = Best Regards,
-=Geoff/W5OMR=-

---
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## 85. [ss] Re: How can TAPR support SS development...

From: Jeff King <jeff@aerodata.net>
Date: Tue, 10 Dec 2002 14:21:19 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110384-2002.12.10-14.07.00--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Tue, 10 Dec 2002 18:48:52 +0000, Anthony.N.Martin@marconimobile.com wrote:

>Do you think there should be a european TAPR equivalent,

Isn't that Nordlink?  http://www.nordlink.org

>Certainly conferences in the USA aren't very helpful.

I'd be willing to attend a joint conference with them in Germany or some
other  cheap europe destination to fly to. In fact, I hope it happens as the
last time the Germans attended in mass at the DCC, it was one of the better
one's that I had gone to.

-Jeff

---
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## 86. [ss] Re: DCC Articles

From: "Joshua Davis, KD5LSX" <kd5lsx@earthlink.net>
Date: Tue, 10 Dec 2002 14:17:17 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110390-2002.12.10-15.03.06--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Looking at this post, I think I'll jump out of "lurking mode" to let
everybody who's interested in OpenH323 know that I've setup a conference
(MCU) server at kd5lsx.no-ip.org:1720. If anybody wants to try speakfreely,
I can turn on the server for that too.

Feel free to use the OpenH323 server at any time. Besides, the only testing
it's gotten is from me on my LAN. I could use feedback. :)

73,
Joshua Davis, KD5LSX
San Antonio, Texas, USA

> -----Original Message-----
> From: bounce-ss-31026@lists.tapr.org
> [mailto:bounce-ss-31026@lists.tapr.org]On Behalf Of Geoff Edmonson

> Sent: Tuesday, December 10, 2002 1:11 PM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: DCC Articles
>
>
> Ohphone worked "out of the box" for me, this morning.
>
> I do mostly everything on a windows machine.  The linux machine is my
> gateway/router/switch/ and web/mail/ssh/sftp server.
>
> Where I do anything on Linux, is at the command line.
>
> downloading and simply running Ohphone allowed the Windows
> program "Netmeeting"
> to work, and the two communicated quite nicely.
>
> Of course, I didn't try anything outside of the local network,
> but could detect
> minimal delay on the 100Mb/s Lan ;-)
>
> Looking more carefully at speakfree now, since that's also what
> the IRLP folk
> are using.
>
> Idealy, I'd like to run IRLP reflector software here on my linux
> machine and
> have remote systems be able to connect to the then 'local'
> reflector, with a UHF
> Linked-repeater system in the South Central Texas area and it's 9
> 'satelites',
> linked to the greater Metro Houston Linked Repeater system and
> around as many
> inputs.
>
> 2 connections, 18 repeaters, linking an area of South Texas from
> Pipe Creek to
> Beaumont, from Austin to Corpus and all points inbetween.
>
> Add 1 more connection to the Colorado reflector and a HUGE mass
> of land becomes
> available via IRLP.
>
> At least that's my plan.
>
> sorry for the rambling - I forget where I am, sometimes.  IRLP don't have
> anything to do with Spread Spectrum, but running h.323 over
> 802.11b is exciting,
> also ;-)
>
>
> 73 = Best Regards,
> -=Geoff/W5OMR=-
>


---
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## 87. [ss] Re: DCC Articles

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Wed, 11 Dec 2002 08:18:06 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110394-2002.12.10-16.03.13--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> What's the Linux equivalent, John?

GnomeMeeting is a NetMeeting lookalike.  You've also got the OpenH323 app
Ohphone, though that's more bare bones.

---
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Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.427 / Virus Database: 240 - Release Date: 6/12/2002


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## 88. [ss] RE: [ss] RE: How can TAPR support SS development..."Build the TAPR FS meter"

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Wed, 11 Dec 2002 08:33:37 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110399-2002.12.10-16.18.58--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The simplest relative field strength meter is a receiver connected to an
antenna and switchable to a dummy load. If you know the receiver's
sensitivity and antenna gain you can measure the increase in receiver output
with a true-RMS voltmeter, first with no signal present, then with the
receiver connected to an antenna and the signal being measured present.


An "AM/SSB" mode receiver can be used. The ARRL Lab has an Icom R3 that
tunes 2.4 GHz and is relatively useful.  It is not well shielded, though,
and it has a lot of spurious responses, so it truly is just "relatively"
useful.  A step attenuator in front of the receiver can help keep the signal
in the linear range of the receiver, or the S meter can be pre-calibrated
against a good signal generator. (This has its limits, because the acual
gain of the IF strip could change by several dB with time or temperature,
but it is a reasonable good approximation.)

We are after a FS meter which can be used with DSSS signals which are 22 MHz
wide.  It is also intended to be useable by non hams who aren't likely to
have a suitable Rx in their possession.

However, the biggest issue with your idea is the requirement for ham/serious
SWL type equipment, which we cannot assume is available.  Certainly for
those of us who do have the gear, it's a good idea.

My vision is for a simple relative field strength meter that can give a
rough indication that antenna X is z dB higher gain than antenna Y when
measured in the far field in a suitable environment (most likely an open
paddock for most people).

---
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Version: 6.0.427 / Virus Database: 240 - Release Date: 6/12/2002


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## 89. [ss] Re: DCC Articles

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Wed, 11 Dec 2002 08:41:19 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110404-2002.12.10-16.26.32--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> H323 is a beast..   Check out http://www.speakfreely.org    A

H323 is a pain when there's firewalls concerned, though on a completely
connected network, it works fine.

> lightweight application
> that's open and works well through firewalls.   This is, I
> believe, the basis of both
> IRLP and Echolink.    The IM part of the solution is Jabber,

You are correct in that assertion.  IRLP uses Speak Freely pretty much
directly (with some modifications).  EchoLink is based on modified Speak
Freely protocols.  Only downside of Speak Freely in the suggested
application is it doesn't support video.

http://www.jabber.org which
is another open and rapidly evolving software solution.

Jabber works pretty well, I'm usually parked on a Jabber server when online.

---
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Version: 6.0.427 / Virus Database: 240 - Release Date: 6/12/2002

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## 90. [ss] RE: How can TAPR support SS development..."Build the TAP R FS meter"

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Wed, 11 Dec 2002 08:43:55 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110405-2002.12.10-16.30.17--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Now, how do you make an 802.11 WLAN device transmit as much
> as possible to give you field to measure? Possibly by some piece
> of software that makes it send a continuous stream of broadcast
> packets so you don't need any other WLANs nearby that may upset
> your readings.
>
> Can anyone sort this bit out?

Hmm, a UDP flooding program perhaps?  or even ping -f some.fake.ip.address?

:-)

---
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## 91. [ss] RE: How can TAPR support SS development..."Build the TAP R FS meter"

From: "Hare,Ed, W1RFI" <w1rfi@arrl.org>
Date: Tue, 10 Dec 2002 16:51:30 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110406-2002.12.10-16.36.36--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The IEEE 802.11a and 802.11b cards we have set up in the ARRL Lab (with an SSID of W1RFI so as far as I
was concerned, they were operated under Part 97) both sounded "bursty" when transmitting long files.

There was no EMI or other interference from other WLAN devices, but the noise level would vary by several dB from time to time.

I would be quite happy to measure the devices in situ, to whatever degree they varied.

73,
Ed Hare, W1RFI
ARRL Lab
225 Main St
Newington, CT 06111
Tel: 860-594-0318
Internet: w1rfi@arrl.org
Web: http://www.arrl.org/tis

> -----Original Message-----
> From: Tony Langdon [mailto:tlangdon@atctraining.com.au]
> Sent: Tuesday, December 10, 2002 4:44 PM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] RE: How can TAPR support SS
> development..."Build the TAP R
> FS meter"
>
>
> > Now, how do you make an 802.11 WLAN device transmit as much
> > as possible to give you field to measure? Possibly by some piece
> > of software that makes it send a continuous stream of broadcast
> > packets so you don't need any other WLANs nearby that may upset
> > your readings.
> >
> > Can anyone sort this bit out?
>
> Hmm, a UDP flooding program perhaps?  or even ping -f
> some.fake.ip.address?
>
> :-)
>
> ---
> Outgoing mail has been scanned for Viruses
> Checked by AVG anti-virus system (http://www.grisoft.com).
> Version: 6.0.427 / Virus Database: 240 - Release Date: 6/12/2002
>
>
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> notify the sender. You must not disclose, copy or rely on any
> part of this
> correspondence if you are not the intended recipient.
>
> Any opinions expressed in this message are those of the
> individual sender.
>
>
> ---
> You are currently subscribed to ss as: W1RFI@ARRL.ORG
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 92. [ss] Re: How can TAPR support SS development...

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Wed, 11 Dec 2002 08:52:12 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110407-2002.12.10-16.37.41--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>  How about a WLAN unplugfest? particularly to test out
>  features important to amateurs, like interoperability
>  and compliance of 802.1D bridging...

Problem here is these events tend to be local in nature and we're trying to
work at minimum on the USA scale, but more realistically, globally.
However,TAPR could be a resource for groups planning such events (providing
info, listing "official" events, etc)...  And the actual running of those
events could be managed at the local level.  Another opportunity for radio
clubs and WLAN groups to work side by side.

>  How about an exchange for the borrowing of hardware
>  for the purpose of demonstration, software testing,
>  network testing etc?

Maybe, though the distance aspect becomes an issue again...

>  Do you think there should be a european TAPR
>  equivalent, and would TAPR have a role in helping
>  set one up? There are few europersons on SS-SIG;
>  not thru lack of SS or WLAN in europe. Is TAPR
>  not serving their needs well? Certainly conferences
>  in the USA aren't very helpful.

Maybe TAPR needs affiliate organisations in each of the ITU regions?

>  Should there be established spread-spectrum bands
>  in the national band-plans, is this a job for TAPR?

I see TAPR having an advisory role here, offering input to the national
bodies that formulate the actual band plans.  Afterall, TAPR is going to
have the best understanding of current SS technology and its requirements.

---
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## 93. [ss] Re: DCC Articles

From: dubose@texas.net
Date: Tue, 10 Dec 2002 15:53:47 US/Central
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110409-2002.12.10-16.39.05--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I know that H323 and Speak Freely support peer-to-peer conncetions.  Does
Jabber do this?  I thought it was on a chat type applications.

Walt/K5YFW

>
> > H323 is a beast..   Check out http://www.speakfreely.org    A
>
> H323 is a pain when there's firewalls concerned, though on a completely
> connected network, it works fine.
>
> > lightweight application
> > that's open and works well through firewalls.   This is, I
> > believe, the basis of both
> > IRLP and Echolink.    The IM part of the solution is Jabber,
>
> You are correct in that assertion.  IRLP uses Speak Freely pretty much
> directly (with some modifications).  EchoLink is based on modified Speak
> Freely protocols.  Only downside of Speak Freely in the suggested
> application is it doesn't support video.
>
> http://www.jabber.org which

> is another open and rapidly evolving software solution.
>
> Jabber works pretty well, I'm usually parked on a Jabber server when online.
>
> ---
> Outgoing mail has been scanned for Viruses
> Checked by AVG anti-virus system (http://www.grisoft.com).
> Version: 6.0.427 / Virus Database: 240 - Release Date: 6/12/2002
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---
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## 94. [ss] Re: DCC Articles

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Wed, 11 Dec 2002 08:58:04 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110410-2002.12.10-16.43.18--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> > OpenH323.org, and their simple app, ohphone.  Careful:  Long compile
> > times, but it works pretty well!  Check out, also, gnomemeeting.
>
> Ohphone worked "out of the box" for me, this morning.
>
> I do mostly everything on a windows machine.  The linux machine is my
> gateway/router/switch/ and web/mail/ssh/sftp server.
>
> Where I do anything on Linux, is at the command line.

Exactly the same as me, though add "IRLP node" to the list of my Linux box's
functionality. :)

> Looking more carefully at speakfree now, since that's also
> what the IRLP folk
> are using.
>
> Idealy, I'd like to run IRLP reflector software here on my
> linux machine and
> have remote systems be able to connect to the then 'local'
> reflector, with a UHF
> Linked-repeater system in the South Central Texas area and
> it's 9 'satelites',
> linked to the greater Metro Houston Linked Repeater system
> and around as many
> inputs.

Well, combine that basic idea with SS links between repeaters (creeping back
on topic LOL) - integrated voice and data.  Could be an opportunity to
experiment with QoS principles, giving the voice real time priority and data
lower priority in times of congestion.

> Add 1 more connection to the Colorado reflector and a HUGE
> mass of land becomes
> available via IRLP.
>
> At least that's my plan.

I suspect some bits of this haven't yet been built....  but interesting.

> sorry for the rambling - I forget where I am, sometimes.

> IRLP don't have
> anything to do with Spread Spectrum, but running h.323 over
> 802.11b is exciting,
> also ;-)

Well, at Melbourne Wireless, we have had over a dozen people running Speak Freely on laptops.  Everyone had an absolute ball, it was like the old CB days all over.  One guy was even game enough to head down to the local pub and transmit live from there LOL.  That night certainly stirred an interest in VoIP (especially when I later gave a few people demos of IRLP).

---
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## 95. [ss] Re: DCC Articles

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Wed, 11 Dec 2002 09:01:27 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110414-2002.12.10-16.46.36--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Looking at this post, I think I'll jump out of "lurking mode" to let
> everybody who's interested in OpenH323 know that I've setup a
> conference
> (MCU) server at kd5lsx.no-ip.org:1720. If anybody wants to
> try speakfreely,
> I can turn on the server for that too.

OK, cool.  However, please don't run your Speak Freely on port 2074, as I won;t be able to easily test it (since that port is used by the IRLP box :) ).  I normally reserve 2094 for the Windows PC (which I would be running SF from), or I could go for the "out of the box" reflector port of 4074.
>
> Feel free to use the OpenH323 server at any time. Besides,
> the only testing
> it's gotten is from me on my LAN. I could use feedback. :)

Well, I can only try from home.  Haven't got H323 support in the firewall here.  Only H323 activity here is internal...

---
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## 96. [ss] Re: Possible SPAM (accuracy medium): Re: DCC Articles

From: "Geoff Edmonson" <w5omr@w5omr.shacknet.nu>
Date: Tue, 10 Dec 2002 16:03:28 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110415-2002.12.10-16.48.02--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> I know that H323 and Speak Freely support peer-to-peer conncetions.  Does
> Jabber do this?  I thought it was on a chat type applications.

>> The IM part of the solution is Jabber

Walt - IM stands for "Instant Message".  That is the "text-chat" type of
application.

73 / Geoff

---
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## 97. [ss] Re: Possible SPAM (accuracy low): Re: DCC Articles

From: "Geoff Edmonson" <w5omr@w5omr.shacknet.nu>
Date: Tue, 10 Dec 2002 16:11:36 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110418-2002.12.10-16.56.05--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> > I do mostly everything on a windows machine.  The linux machine is my
> > gateway/router/switch/ and web/mail/ssh/sftp server.
> >
> > Where I do anything on Linux, is at the command line.
>
> Exactly the same as me, though add "IRLP node" to the list of my Linux box's
> functionality. :)

The hardware is installed.  If I wanted to switch distro's to Redhat 6.2, I'd
have the software installed, too ;-)

> > Add 1 more connection to the Colorado reflector and a HUGE
> > mass of land becomes available via IRLP.

> > At least that's my plan.

> I suspect some bits of this haven't yet been built....  but interesting.

the only thing that hasn't been built yet, is 1 linux box connected to
high-speed access in downtown San Antonio, and a radio hung on it, to talk to
one of the link-repeaters.  Everything else is there.  When the San Antonio link
system talks to the reflector at my place, and a box in the Houston area does
the same, then those two linked repeater systems are then linked together.

> > sorry for the rambling - I forget where I am, sometimes.
> > IRLP don't have
> > anything to do with Spread Spectrum, but running h.323 over
> > 802.11b is exciting, also ;-)
>
> Well, at Melbourne Wireless, we have had over a dozen people running Speak
> Freely on laptops.  Everyone had an absolute ball, it was like the old CB
> days all over.  One guy was even game enough to head down to the local pub
> and transmit live from there LOL.  That night certainly stirred an interest
> in VoIP (especially when I later gave a few people demos of IRLP).

IRLP is 'the bomb', for V/UHF.  for me, nothing will ever (again) replace HF for
comms.

73 = Best Regards,
-=Geoff/W5OMR=-

---
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## 98. [ss] RE: How can TAPR support SS development..."Build the TAP R FS meter"

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Wed, 11 Dec 2002 09:15:13 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110419-2002.12.10-17.00.25--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> The IEEE 802.11a and 802.11b cards we have set up in the ARRL
> Lab (with an SSID of W1RFI so as far as I was concerned, they
> were operated under Part 97) both sounded "bursty" when
> transmitting long files.  There was no EMI or other
> interference from other WLAN devices, but the noise level
> would vary by several dB from time to time.
>
> I would be quite happy to measure the devices in situ, to
> whatever degree they varied.

OK, no probs.  Actually, some time back, I had come up with an alternate strategy (another way for hams to help the non hams).  I have a 2.4 GHz multiplier, which I configured to accept 1/2 watt on 400 ish MHz from the HT.  The output is around 50 mW on 2.4 GHz.  I was planning on using this as a signal source for future antenna testing.  So use the 802.11b card if there's no hams around and if there is a ham, they could bring a 2.4 GHz signal source like mine. :)

---
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## 99. [ss] Re: DCC Articles

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Wed, 11 Dec 2002 09:17:03 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110420-2002.12.10-17.02.13--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> I know that H323 and Speak Freely support peer-to-peer
> conncetions.  Does
> Jabber do this?  I thought it was on a chat type applications.

Jabber is an open source replacement for ICQ like services and has server and client components.  The difference is that it's open source and Jabber servers can be setup indepent of the main Jabber network on the Internet, so we could have a ham Jabber network that only exists on RF. :)

---
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## 100. [ss] RE: [ss] RE: How can TAPR support SS development..."Build the TAPR FS meter"

From: "Hare,Ed, W1RFI" <w1rfi@arrl.org>
Date: Tue, 10 Dec 2002 17:20:57 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: "Lau, Zack, W1VT" <zlau@arrl.org>
Message-ID: <LYR6751-110423-2002.12.10-17.06.10--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> My vision is for a simple relative field strength meter that can give a rough indication
> that antenna X is z dB higher gain than antenna Y when measured in the far field in a
> suitable environment (most likely an open paddock for most people).

The Icom R3 receiver might fit the bill.

http://www.lentinicomm.com/shopping/pricelist.asp?prid=2567

It street prices for about $340 US, though, pricey for what you have in mind.

I will see if Zack knows of any field-strength meter circuits that will work in 2.4 GHz. If they are ARRL pubs, I will scan them and add them to ARRL's web page and let this group know the URL. (I love being the ARRL Lab Dad; I can do that sort of thing!!!)

73,
Ed Hare, W1RFI
ARRL Lab
225 Main St
Newington, CT 06111
Tel: 860-594-0318
Internet: w1rfi@arrl.org
Web: http://www.arrl.org/tis

-----Original Message-----
From: Tony Langdon [mailto:tlangdon@atctraining.com.au]
Sent: Tuesday, December 10, 2002 4:34 PM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] RE: [ss] RE: How can TAPR support SS development..."Build the TAPR FS meter"

The simplest relative field strength meter is a receiver connected to an antenna and switchable to a dummy load. If you know the receiver's sensitivity and antenna gain you can measure the increase in receiver output with a true-RMS voltmeter, first with no signal present, then with the receiver connected to an antenna and the signal being measured present.

An "AM/SSB" mode receiver can be used. The ARRL Lab has an Icom R3 that tunes 2.4 GHz and is relatively useful. It is not well shielded, though, and it has a lot of spurious responses, so it truly is just "relatively" useful. A step attenuator in front of the receiver can help keep the signal in the linear range of the receiver, or the S meter can be pre-calibrated against a good signal generator. (This has its limits, because the acual gain of the IF strip could change by several dB with time or temperature, but it is a reasonable good approximation.)

We are after a FS meter which can be used with DSSS signals which are 22 MHz wide. It is also intended to be useable by non hams who aren't likely to have a suitable Rx in their possession.

However, the biggest issue with your idea is the requirement for ham/serious SWL type equipment, which we cannot assume is available. Certainly for those of us who do have the gear, it's a good idea.

My vision is for a simple relative field strength meter that can give a rough indication that antenna X is z dB higher gain than antenna Y when measured in the far field in a suitable environment (most likely an open paddock for most people).

---
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## 101. [ss] RE: How can TAPR support SS development..."Build the TAP R FS meter"

From: "Hare,Ed, W1RFI" <w1rfi@arrl.org>
Date: Tue, 10 Dec 2002 17:23:21 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110426-2002.12.10-17.08.36--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

And the Down East Microwave transverters are actually pretty affordable. Any 2-meter HT could serve as the signal source.

http://downeastmicrowave.com/

73,
Ed Hare, W1RFI
ARRL Lab
225 Main St
Newington, CT 06111
Tel: 860-594-0318
Internet: w1rfi@arrl.org
Web: http://www.arrl.org/tis

> -----Original Message-----
> From: Tony Langdon [mailto:tlangdon@atctraining.com.au]
> Sent: Tuesday, December 10, 2002 5:15 PM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] RE: How can TAPR support SS
> development..."Build the TAP R
> FS meter"
>
>
> > The IEEE 802.11a and 802.11b cards we have set up in the ARRL
> > Lab (with an SSID of W1RFI so as far as I was concerned, they
> > were operated under Part 97) both sounded "bursty" when
> > transmitting long files.  There was no EMI or other
> > interference from other WLAN devices, but the noise level
> > would vary by several dB from time to time.
> >
> > I would be quite happy to measure the devices in situ, to
> > whatever degree they varied.
>
> OK, no probs.  Actually, some time back, I had come up with
> an alternate
> strategy (another way for hams to help the non hams).  I have
> a 2.4 GHz
> multiplier, which I configured to accept 1/2 watt on 400 ish
> MHz from the
> HT.  The output is around 50 mW on 2.4 GHz.  I was planning
> on using this as
> a signal source for future antenna testing.  So use the
> 802.11b card if
> there's no hams around and if there is a ham, they could
> bring a 2.4 GHz
> signal source like mine. :)
>
> ---
> Outgoing mail has been scanned for Viruses
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> ---

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## 102. [ss] Re: Possible SPAM (accuracy low): Re: DCC Articles

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Wed, 11 Dec 2002 09:25:21 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110427-2002.12.10-17.10.35--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> The hardware is installed.  If I wanted to switch distro's to
> Redhat 6.2, I'd
> have the software installed, too ;-)

Or Red Hat 7.3, which is the current flavour. :)
>
>
> > > Add 1 more connection to the Colorado reflector and a HUGE
> > > mass of land becomes available via IRLP.
>
> > > At least that's my plan.
>
> > I suspect some bits of this haven't yet been built....  but
> interesting.
>
> the only thing that hasn't been built yet, is 1 linux box connected to
> high-speed access in downtown San Antonio, and a radio hung
> on it, to talk to
> one of the link-repeaters.  Everything else is there.  When
> the San Antonio link
> system talks to the reflector at my place, and a box in the
> Houston area does
> the same, then those two linked repeater systems are then
> linked together.

OK, no probs.  so there's a radio to link to the main IRLP network?  I tend
to look for as few conversions as possible, so I was thinking a reflector
emulating a node, and the linking being purely digital...

>
> > > sorry for the rambling - I forget where I am, sometimes.
> > > IRLP don't have
> > > anything to do with Spread Spectrum, but running h.323 over
> > > 802.11b is exciting, also ;-)
> >
> > Well, at Melbourne Wireless, we have had over a dozen
> people running Speak
> > Freely on laptops.  Everyone had an absolute ball, it was
> like the old CB
> > days all over.  One guy was even game enough to head down
> to the local pub
> > and transmit live from there LOL.  That night certainly
> stirred an interest
> > in VoIP (especially when I later gave a few people demos of IRLP).
>
> IRLP is 'the bomb', for V/UHF.  for me, nothing will ever
> (again) replace HF for
> comms.

Depends what you want.  HF at home is currently very limited.  High noise
levels and poor antenna positioning really kill it off.  Can't even hear the
"Californian Kilowatt" brigade on 14 MHz (even if they beam at me! :( ).  In
the mobile, it's a different story, now there's a place to operate HF -
miles from anywhere, the cellphone hasn't offered a squeak for several hours
(it just sits there looking stupid with "No network" on its LCD), only VHF
activity is a few birdies from the car's electronics... and HF is in there,
rock solid... :-)  Yes, I do love HF when travelling!

---
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## 103. [ss] RE: [ss] RE: [ss] RE: How can TAPR support SS development..."Build the TAPR FS meter"

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Wed, 11 Dec 2002 09:28:40 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: Lau, Zack, W1VT <zlau@arrl.org>
Message-ID: <LYR6751-110428-2002.12.10-17.13.52--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Remember, that's at least $650 over here, so it wouldn't be appropriate (one can get 10 802.11b cards for that if you know the right sources).

-----Original Message-----
From: Hare,Ed, W1RFI [mailto:w1rfi@arrl.org]
Sent: Wednesday, 11 December 2002 9:21 AM
To: TAPR Spread Spectrum Special Interest Group
Cc: Lau, Zack, W1VT
Subject: [ss] RE: [ss] RE: How can TAPR support SS development..."Build the TAPR FS meter"

> My vision is for a simple relative field strength meter that can give a rough indication
> that antenna X is z dB higher gain than antenna Y when measured in the far field in a
> suitable environment (most likely an open paddock for most people).

The Icom R3 receiver might fit the bill.

HYPERLINK "http://www.lentinicomm.com/shopping/pricelist.asp?prid=2567"http://www.lentinicomm.com/shopping/pricelist.asp?prid=2567

It street prices for about $340 US, though, pricey for what you have in mind.

I will see if Zack knows of any field-strength meter circuits that will work in 2.4 GHz. If they are ARRL pubs, I will scan them and add them to ARRL's web page and let this group know the URL. (I love being the ARRL Lab Dad; I can do that sort of thing!!!)

73,
Ed Hare, W1RFI
ARRL Lab
225 Main St
Newington, CT 06111
Tel: 860-594-0318
Internet: w1rfi@arrl.org
Web: HYPERLINK "http://www.arrl.org/tis" \nhttp://www.arrl.org/tis

-----Original Message-----
From: Tony Langdon [mailto:tlangdon@atctraining.com.au]
Sent: Tuesday, December 10, 2002 4:34 PM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] RE: [ss] RE: How can TAPR support SS development..."Build the TAPR FS meter"

The simplest relative field strength meter is a receiver connected to an antenna and switchable to a dummy load. If you know the receiver's sensitivity and antenna gain you can measure the increase in receiver output with a true-RMS voltmeter, first with no signal present, then with the

receiver connected to an antenna and the signal being measured present.

An "AM/SSB" mode receiver can be used. The ARRL Lab has an Icom R3 that tunes 2.4 GHz and is relatively useful.  It is not well shielded, though, and it has a lot of spurious responses, so it truly is just "relatively" useful.  A step attenuator in front of the receiver can help keep the signal in the linear range of the receiver, or the S meter can be pre-calibrated against a good signal generator. (This has its limits, because the acual gain of the IF strip could change by several dB with time or temperature, but it is a reasonable good approximation.)

We are after a FS meter which can be used with DSSS signals which are 22 MHz wide.  It is also intended to be useable by non hams who aren't likely to have a suitable Rx in their possession.

However, the biggest issue with your idea is the requirement for ham/serious SWL type equipment, which we cannot assume is available.  Certainly for those of us who do have the gear, it's a good idea.

My vision is for a simple relative field strength meter that can give a rough indication that antenna X is z dB higher gain than antenna Y when measured in the far field in a suitable environment (most likely an open paddock for most people).

---
Outgoing mail has been scanned for Viruses
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.427 / Virus Database: 240 - Release Date: 6/12/2002

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## 104. [ss] Microwave oven detectors

From: "Hare,Ed, W1RFI" <w1rfi@arrl.org>
Date: Tue, 10 Dec 2002 17:29:42 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110430-2002.12.10-17.15.00--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

http://www.lessemf.com/mw-oven.html

The Less-EMF site is a lot of smoke and mirrors, but the price is right. :-)

73,
Ed Hare, W1RFI
ARRL Lab
225 Main St
Newington, CT 06111
Tel: 860-594-0318
Internet: w1rfi@arrl.org
Web: http://www.arrl.org/tis

> -----Original Message-----
> From: Hare,Ed, W1RFI
> Sent: Tuesday, December 10, 2002 5:23 PM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] RE: How can TAPR support SS
> development..."Build the TAP R
> FS meter"
>
>
> And the Down East Microwave transverters are actually pretty
> affordable. Any 2-meter HT could serve as the signal source.
>
> http://downeastmicrowave.com/
>
>
> 73,
> Ed Hare, W1RFI
> ARRL Lab
> 225 Main St
> Newington, CT 06111
> Tel: 860-594-0318
> Internet: w1rfi@arrl.org
> Web: http://www.arrl.org/tis
>
>
>
> > -----Original Message-----
> > From: Tony Langdon [mailto:tlangdon@atctraining.com.au]
> > Sent: Tuesday, December 10, 2002 5:15 PM
> > To: TAPR Spread Spectrum Special Interest Group
> > Subject: [ss] RE: How can TAPR support SS
> > development..."Build the TAP R
> > FS meter"
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> >
> > > The IEEE 802.11a and 802.11b cards we have set up in the ARRL
> > > Lab (with an SSID of W1RFI so as far as I was concerned, they
> > > were operated under Part 97) both sounded "bursty" when
> > > transmitting long files.  There was no EMI or other
> > > interference from other WLAN devices, but the noise level
> > > would vary by several dB from time to time.
> > >
> > > I would be quite happy to measure the devices in situ, to
> > > whatever degree they varied.
> >
> > OK, no probs.  Actually, some time back, I had come up with
> > an alternate
> > strategy (another way for hams to help the non hams).  I have
> > a 2.4 GHz
> > multiplier, which I configured to accept 1/2 watt on 400 ish
> > MHz from the
> > HT.  The output is around 50 mW on 2.4 GHz.  I was planning
> > on using this as
> > a signal source for future antenna testing.  So use the
> > 802.11b card if
> > there's no hams around and if there is a ham, they could
> > bring a 2.4 GHz
> > signal source like mine. :)
> >
> > ---
> > Outgoing mail has been scanned for Viruses
> > Checked by AVG anti-virus system (http://www.grisoft.com).
> > Version: 6.0.427 / Virus Database: 240 - Release Date: 6/12/2002
> >
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> >
> >
> > ---
> > You are currently subscribed to ss as: W1RFI@ARRL.ORG
> > To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
> >
> >
>
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> You are currently subscribed to ss as: W1RFI@ARRL.ORG
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>
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 105. [ss] RE: How can TAPR support SS development..."Build the TAP R FS meter"

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Wed, 11 Dec 2002 09:31:11 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110431-2002.12.10-17.16.27--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

In VK, the ATV multiplier modules are very cheap.  Just need a modified HT
to drive it (that's the combo I'm using).  About $30 Aus for a dirt cheap
signal source.  Look up Mini Kits (www.minikits.com.au perhaps?  Can't
remember the URL off hand).

If you don't want to use a HT, you could probably make a suitable oscillator
on a sub multiple of the required frequency.

> -----Original Message-----
> From: Hare,Ed, W1RFI [mailto:w1rfi@arrl.org]
> Sent: Wednesday, 11 December 2002 9:23 AM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] RE: How can TAPR support SS
> development..."Build the TAP R
> FS meter"
>
>
> And the Down East Microwave transverters are actually pretty
> affordable. Any 2-meter HT could serve as the signal source.
>
> http://downeastmicrowave.com/
>
>
> 73,
> Ed Hare, W1RFI
> ARRL Lab
> 225 Main St
> Newington, CT 06111
> Tel: 860-594-0318
> Internet: w1rfi@arrl.org
> Web: http://www.arrl.org/tis
>
>
>
> > -----Original Message-----
> > From: Tony Langdon [mailto:tlangdon@atctraining.com.au]
> > Sent: Tuesday, December 10, 2002 5:15 PM
> > To: TAPR Spread Spectrum Special Interest Group
> > Subject: [ss] RE: How can TAPR support SS
> > development..."Build the TAP R
> > FS meter"
> >
> >
> > > The IEEE 802.11a and 802.11b cards we have set up in the ARRL
> > > Lab (with an SSID of W1RFI so as far as I was concerned, they
> > > were operated under Part 97) both sounded "bursty" when
> > > transmitting long files.  There was no EMI or other
> > > interference from other WLAN devices, but the noise level
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> > > I would be quite happy to measure the devices in situ, to

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> > individual sender.
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> >
>
> ---
> You are currently subscribed to ss as: tlangdon@atctraining.com.au
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
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---
You are currently subscribed to ss as: lyris.ss@tapr.org
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## 106. [ss] Re: Microwave oven detectors

From: Jeff King <jeff@aerodata.net>
Date: Tue, 10 Dec 2002 17:41:13 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110437-2002.12.10-17.26.43--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I like the "microwave light"  that lights up when you put it in the operating
microwave oven.

I've found that AOL CD's also "light up" when placed in a microwave oven  ;-)

Thanks for the link Ed!

--
Jeff King, jeff@aerodata.net on 12/10/2002

On Tue, 10 Dec 2002 17:29:42 -0500, Hare,Ed, W1RFI wrote:
>http://www.lessemf.com/mw-oven.html
>
>The Less-EMF site is a lot of smoke and mirrors, but the price is
>right. :-)
>
>73,
>Ed Hare, W1RFI
>ARRL Lab
>225 Main St
>Newington, CT 06111
>Tel: 860-594-0318
>Internet: w1rfi@arrl.org
>Web: http://www.arrl.org/tis
>
>
>
>>-----Original Message-----
>>From: Hare,Ed, W1RFI
>>Sent: Tuesday, December 10, 2002 5:23 PM
>>To: TAPR Spread Spectrum Special Interest Group
>>Subject: [ss] RE: How can TAPR support SS
>>development..."Build the TAP R
>>FS meter"
>>
>>
>>And the Down East Microwave transverters are actually pretty
>>affordable. Any 2-meter HT could serve as the signal source.
>>
>>http://downeastmicrowave.com/
>>
>>
>>73,
>>Ed Hare, W1RFI
>>ARRL Lab
>>225 Main St
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>>Tel: 860-594-0318
>>Internet: w1rfi@arrl.org
>>Web: http://www.arrl.org/tis
>>
>>
>>
>>>-----Original Message-----
>>>From: Tony Langdon [mailto:tlangdon@atctraining.com.au]
>>>Sent: Tuesday, December 10, 2002 5:15 PM
>>>To: TAPR Spread Spectrum Special Interest Group
>>>Subject: [ss] RE: How can TAPR support SS
>>>development..."Build the TAP R
>>>FS meter"
>>>
>>>
>>>>The IEEE 802.11a and 802.11b cards we have set up in the ARRL
>>>>Lab (with an SSID of W1RFI so as far as I was concerned, they
>>>>were operated under Part 97) both sounded "bursty" when
>>>>transmitting long files.  There was no EMI or other
>>>>interference from other WLAN devices, but the noise level
>>>>would vary by several dB from time to time.
>>>>
>>>>I would be quite happy to measure the devices in situ, to
>>>>whatever degree they varied.
>>>
>>>OK, no probs.  Actually, some time back, I had come up with
>>>an alternate
>>>strategy (another way for hams to help the non hams).  I have
>>>a 2.4 GHz
>>>multiplier, which I configured to accept 1/2 watt on 400 ish
>>>MHz from the
>>>HT.  The output is around 50 mW on 2.4 GHz.  I was planning
>>>on using this as

>>>a signal source for future antenna testing.  So use the
>>>802.11b card if
>>>there's no hams around and if there is a ham, they could
>>>bring a 2.4 GHz
>>>signal source like mine. :)
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>>>9838V@lists.tapr.org
>>>
>>>
>>
>>---
>>You are currently subscribed to ss as: W1RFI@ARRL.ORG
>>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>>
>>
>
>---
>You are currently subscribed to ss as: jeff@aerodata.net
>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 107. [ss] RE:"Build the TAPR FS meter"

From: "Lyle Johnson" <wa7gxd@fidalgo.net>
Date: Tue, 10 Dec 2002 14:50:47 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110443-2002.12.10-17.35.46--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The Analog Devices AD8313 chip is a logarithmic amplifier from 100 MHz to
2.5 Ghz, costs only $12.25 in 100 qty, and an eval board already built is
only $99 in unit qty.

This would be easy to put on a PCB along with a dipole etched on the same
PCB for 2.4 GHz and etc.  Presto!  a field strength meter with linear
readout of dB and a 70 dB range.  Add a battery and a meter (use your $10
DVM - I got one for $10 NZD, US $5 when I was in New Zealand last year so
this is even cheap for our friends down under :-)

At 2.4 GHz and for this purpsoe, FR-4 PCB material would be OK.

Could probably model it and do the PCB artwork with Puff (used to be
freeware, maybe still is).

Ed, turn Zack loose on this project :-)

73,

Lyle KK7P

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 108. [ss] RE:"Build the TAPR FS meter"

From: "Lyle Johnson" <wa7gxd@fidalgo.net>
Date: Tue, 10 Dec 2002 14:54:37 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110444-2002.12.10-17.39.31--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

AMSAT-UK has links to a kit to build a 2.4 GHz signal source for not much
money.

http://www.g0mrf.freeserve.co.uk/source2.htm

Why make it hard with HTs and transverters?  "TAPR" could act as an agent
for importing these kits to the US for the signal source, and make the FSM
kit with the AD8313...

73,

Lyle KK7P

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 109. [ss] RE:"Build the TAPR FS meter"

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Wed, 11 Dec 2002 09:55:00 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110445-2002.12.10-17.40.14--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> This would be easy to put on a PCB along with a dipole etched
> on the same
> PCB for 2.4 GHz and etc.  Presto!  a field strength meter with linear
> readout of dB and a 70 dB range.  Add a battery and a meter
> (use your $10
> DVM - I got one for $10 NZD, US $5 when I was in New Zealand
> last year so
> this is even cheap for our friends down under :-)

Sounds nice.  And yes, DVMs are dirt cheap over here too.  I can see a good
possibility of a workable design here...

---
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Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.427 / Virus Database: 240 - Release Date: 6/12/2002

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You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 110. [ss] RE: How can TAPR support SS development..."Build the TAP R FS meter"

From: Gerry Creager <gerry.creager@tamu.edu>
Date: Tue, 10 Dec 2002 17:22:13 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110449-2002.12.10-18.07.51--lyris.ss#tapr.org@lists.tapr.org>

Rendered body type: text/plain

If you were 'sending' a large file, it was stopping to look for ACK.
It's half-duplex.  It could have seen a bit of a delay, detectable by
human ears, getting an ACK turned around.

gerry

Hare,Ed, W1RFI wrote:
> The IEEE 802.11a and 802.11b cards we have set up in the ARRL Lab (with an SSID of W1RFI so as far as I was concerned, they were operated under Part 97) both sounded "bursty" when transmitting long files. There was no EMI or other interference from other WLAN devices, but the noise level would vary by several dB from time to time.
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> I would be quite happy to measure the devices in situ, to whatever degree they varied.
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> 73,
> Ed Hare, W1RFI
> ARRL Lab
> 225 Main St
> Newington, CT 06111
> Tel: 860-594-0318
> Internet: w1rfi@arrl.org
> Web: http://www.arrl.org/tis
>
>
>
>
>>-----Original Message-----
>>From: Tony Langdon [mailto:tlangdon@atctraining.com.au]
>>Sent: Tuesday, December 10, 2002 4:44 PM
>>To: TAPR Spread Spectrum Special Interest Group
>>Subject: [ss] RE: How can TAPR support SS
>>development..."Build the TAP R
>>FS meter"
>>
>>
>>
>>>Now, how do you make an 802.11 WLAN device transmit as much
>>>as possible to give you field to measure? Possibly by some piece
>>>of software that makes it send a continuous stream of broadcast
>>>packets so you don't need any other WLANs nearby that may upset
>>>your readings.
>>>
>>>Can anyone sort this bit out?
>>
>>Hmm, a UDP flooding program perhaps?  or even ping -f
>>some.fake.ip.address?
>>
>>:-)
>>
>>---
>>Outgoing mail has been scanned for Viruses
>>Checked by AVG anti-virus system (http://www.grisoft.com).
>>Version: 6.0.427 / Virus Database: 240 - Release Date: 6/12/2002
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>>You are currently subscribed to ss as: W1RFI@ARRL.ORG
>>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>>
>>
>
>
> ---

> You are currently subscribed to ss as: gerry.creager@tamu.edu
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

--
Gerry Creager -- gerry.creager@tamu.edu
Network Engineering -- AATLT, Texas A&M University
Office: 979.458.4020  FAX: 979.847.8578
Cell: 979.229.5301    Pager: 979.228.0173

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 111. [ss] RE: How can TAPR support SS development..."Build the TAP R FS meter"

From: "Geoff Edmonson" <w5omr@w5omr.shacknet.nu>
Date: Tue, 10 Dec 2002 18:07:00 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110451-2002.12.10-18.51.25--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> If you were 'sending' a large file, it was stopping to look for ACK.
> It's half-duplex.  It could have seen a bit of a delay, detectable by
> human ears, getting an ACK turned around.

er?

802.11b Spread Spectrum Wireless Network connection is half-duplex?

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 112. [ss] Re: Microwave oven detectors

From: "m.a.pinfold" <pinfold@xtra.co.nz>
Date: Wed, 11 Dec 2002 13:47:27 +1300
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110453-2002.12.10-19.28.04--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

CD's in the microwave go really cool ! just like 4th of July fireworks too!
dont let your wife catch you though  ( the kids think it's great) Mike
ZL1BTB
----- Original Message -----
From: Jeff King <jeff@aerodata.net>
To: TAPR Spread Spectrum Special Interest Group <ss@lists.tapr.org>
Sent: Wednesday, December 11, 2002 11:41 AM
Subject: [ss] Re: Microwave oven detectors

I like the "microwave light"  that lights up when you put it in the
operating
microwave oven.

I've found that AOL CD's also "light up" when placed in a microwave oven
;-)

Thanks for the link Ed!

--
Jeff King, jeff@aerodata.net on 12/10/2002

On Tue, 10 Dec 2002 17:29:42 -0500, Hare,Ed, W1RFI wrote:
>http://www.lessemf.com/mw-oven.html
>
>The Less-EMF site is a lot of smoke and mirrors, but the price is
>right. :-)
>
>73,
>Ed Hare, W1RFI
>ARRL Lab
>225 Main St

>Newington, CT 06111
>Tel: 860-594-0318
>Internet: w1rfi@arrl.org
>Web: http://www.arrl.org/tis
>
>
>
>>-----Original Message-----
>>From: Hare,Ed, W1RFI
>>Sent: Tuesday, December 10, 2002 5:23 PM
>>To: TAPR Spread Spectrum Special Interest Group
>>Subject: [ss] RE: How can TAPR support SS
>>development..."Build the TAP R
>>FS meter"
>>
>>
>>And the Down East Microwave transverters are actually pretty
>>affordable. Any 2-meter HT could serve as the signal source.
>>
>>http://downeastmicrowave.com/
>>
>>
>>73,
>>Ed Hare, W1RFI
>>ARRL Lab
>>225 Main St
>>Newington, CT 06111
>>Tel: 860-594-0318
>>Internet: w1rfi@arrl.org
>>Web: http://www.arrl.org/tis
>>
>>
>>
>>>-----Original Message-----
>>>From: Tony Langdon [mailto:tlangdon@atctraining.com.au]
>>>Sent: Tuesday, December 10, 2002 5:15 PM
>>>To: TAPR Spread Spectrum Special Interest Group
>>>Subject: [ss] RE: How can TAPR support SS
>>>development..."Build the TAP R
>>>FS meter"
>>>
>>>
>>>>The IEEE 802.11a and 802.11b cards we have set up in the ARRL
>>>>Lab (with an SSID of W1RFI so as far as I was concerned, they
>>>>were operated under Part 97) both sounded "bursty" when
>>>>transmitting long files.  There was no EMI or other
>>>>interference from other WLAN devices, but the noise level
>>>>would vary by several dB from time to time.
>>>>
>>>>I would be quite happy to measure the devices in situ, to
>>>>whatever degree they varied.
>>>
>>>OK, no probs.  Actually, some time back, I had come up with
>>>an alternate
>>>strategy (another way for hams to help the non hams).  I have
>>>a 2.4 GHz
>>>multiplier, which I configured to accept 1/2 watt on 400 ish
>>>MHz from the
>>>HT.  The output is around 50 mW on 2.4 GHz.  I was planning
>>>on using this as
>>>a signal source for future antenna testing.  So use the
>>>802.11b card if
>>>there's no hams around and if there is a ham, they could
>>>bring a 2.4 GHz
>>>signal source like mine. :)
>>>
>>>---
>>>Outgoing mail has been scanned for Viruses
>>>Checked by AVG anti-virus system (http://www.grisoft.com).
>>>Version: 6.0.427 / Virus Database: 240 - Release Date: 6/12/2002
>>>
>>>
>>>This correspondence is for the named person's use only. It
>>may contain
>>>confidential or legally privileged information or both. No
>>>confidentiality
>>>or privilege is waived or lost by any mistransmission. If you
>>>receive this
>>>correspondence in error, please immediately delete it from

>>>your system and
>>>notify the sender. You must not disclose, copy or rely on any
>>>part of this
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>>>
>>>Any opinions expressed in this message are those of the
>>>individual sender.
>>>
>>>
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>>>9838V@lists.tapr.org
>>>
>>>
>>
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>>
>
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## 113. [ss] RE:"Build the TAPR FS meter"

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Wed, 11 Dec 2002 16:45:50 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110519-2002.12.11-00.35.48--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

People

Funny that Lyle should suggest using the AD8313 to act as a field
strength meter. I picked up a copy of Elektor Electronics magazine
today, about the same time that Lyle posted his message. They had a
project there for a 1 KHz to 1 GHz RF Wattmeter using the AD8307. It
would not take too much work to move this onto the better AD8313 IC.

This design is based on putting a postage stamp size PCB on the back of
a BNC socket. With a small ammount of filtering on the output, the
designer then fed the receive signal into a PIC16F876.

For the PCB for the AD chip, I suspect that even normal PCB material
will be OK if a small BNC whip is used instead of a dipole on the PCB.
This would allow you to put it onto a receive dish for instace. And to
get arround the problem of the signals going up and down, you have a
reference antenna on one device, and the antenna under test on the other
one.

I suggest that people have a look at the design on
http://www.webx.dk/oz2cpu/radios/miliwatt.htm

Adding a CPU with display is very easy. I would find a better case (and
I have some in mind).

While we are at it we could also add a 2nd PCB - a Directional Coupler
that could be used in association with the kit above. Minicircuits have
a Directional Coupler from 1 -> 2.5 GHz for US$5.95 in small qantities -
BDCA-10-25

Where to from here. Is there anyone that can do part of a project like
this?

Darryl

>Subject: RE:"Build the TAPR FS meter"
>From: "Lyle Johnson" <wa7gxd@fidalgo.net>
>Date: Tue, 10 Dec 2002 14:50:47 -0800
>X-Message-Number: 42
>
>The Analog Devices AD8313 chip is a logarithmic amplifier from 100 MHz
to
>2.5 Ghz, costs only $12.25 in 100 qty, and an eval board already built
is
>only $99 in unit qty.
>
>This would be easy to put on a PCB along with a dipole etched on the
same
>PCB for 2.4 GHz and etc.  Presto!  a field strength meter with linear
>readout of dB and a 70 dB range.  Add a battery and a meter (use your
$10
>DVM - I got one for $10 NZD, US $5 when I was in New Zealand last year
so
>this is even cheap for our friends down under :-)
>
>At 2.4 GHz and for this purpsoe, FR-4 PCB material would be OK.
>
>Could probably model it and do the PCB artwork with Puff (used to be
>freeware, maybe still is).
>
>Ed, turn Zack loose on this project :-)

73,

Lyle KK7P

---------
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

---
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## 114. [ss] RE: How can TAPR support SS development..."Build the TAP R FS meter"

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Wed, 11 Dec 2002 17:46:10 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110529-2002.12.11-01.36.37--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

From: "Geoff Edmonson" <w5omr@w5omr.shacknet.nu>
>er?
>
>802.11b Spread Spectrum Wireless Network connection is half-duplex?

YES. 802.11b is 1200bps PACKET RADIO with faster modems and a bit of
window dressing. Oh, and they have VERY fast TX/RX times. And very small
TX Delays. Networks scale a bit better in ad-hoc half duplex.

If you are wanting to learn more about 802.11 you might want to check
out the O'Reilly book on the subject...

http://www.amazon.com/exec/obidos/ASIN/0596001835/radioactivene-20

Darryl

---------
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

---

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## 115. [ss] TAPR in Europe.

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Wed, 11 Dec 2002 19:03:40 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110532-2002.12.11-02.54.47--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

People...

Anthony.N.Martin@marconimobile.com asked "Do you think there should be a european TAPR equivalent"

When I was asked to stand for the board, one of the reasons was to make TAPR 'More International'. I think that I am slowly succeeding. One of the first things I brought up at the TAPR Board was to get non-USA membership reduced to US$20/year. That means that you can join TAPR for the same price in Europe, the USA or in Asia. [If you are reading this from Europe, please email me. I would love to speak to you]

I would love to have more europeans involved with TAPR, and for TAPR to be more involved in Europe. The question really is how. Conferences are a help, but realistically most people do not attend conferences - at least at the national level. Regional ones are another matter.

Here in Australia there was a TECHNICAL SYMPOSIUM in our national capital for a Sunday a month back - The story will be in the next issue of PSR. The symposium could be best described as a mini-dcc. TAPR supported this symposium with some prizes for people who put in a lot of work either presenting or organising. But of the prizes we presented, none were really free.

You see, we gave DCC proceedings to a couple of Hams who are actually doing real work in Ham Radio, and will probably write a paper for the conference next year. We gave a TAPR software CD to a ham who produces a CD of software and maps for the APRS community in the national capital. And we gave out about 20 application forms for TAPR for people who were interested. Will this pay off? Well, it will take a little while, but yes, it will.

I was going to say that TAPR needs people in Europe to help us market an organisation that many of us love. But it needs more than that. It really needs people throught the world, including the USA, to help market the organisation. It is amazing what some simple marketing can do. Back in 1999, I went to the national conference of the NZART (ARRL for New Zealand) and spoke at their conference on APRS. I then spent the next couple of weeks doing another SEVEN talks on APRS arround the country. Go to new Zealand now, and you will find one of the most extensive national APRS networks in the world. People over there are now really into the mode. That is the power of marketing to ham radio

[Off topic... I have started writing my paper for next years DCC... It will probably be more important than any paper I have ever written for Ham Radio... It will be on Marketing Ham Radio... ]

What place do I see for TAPR? I see it as an organisation with the job of connecting people, and providing the resources for those people to do things. I can see TAPR doing a microwave field strength meter kit. I know that TAPR funds various projects to extend the state of the art. We hold the annual DCC.

Whilst I am here, I would encourage any people reading this who are not members of TAPR to join so that TAPR has the critical mass in order to do things in the Ham Radio community. You can join by visiting www.tapr.org

Darryl

BTW, for those that have not heard, the ARRL is sponsoring three new annual Awards.
ARRL TECHNICAL SERVICE AWARD
ARRL TECHNICAL INNOVATION AWARD
ARRL MICROWAVE DEVELOPMENT AWARD

I am sure you can find more information about them on the ARRL web site.

Darryl

>Anthony.N.Martin@marconimobile.com wrote:
 Do you think there should be a european TAPR
 equivalent, and would TAPR have a role in helping
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 not thru lack of SS or WLAN in europe. Is TAPR
 not serving their needs well? Certainly conferences
 in the USA aren't very helpful.
---------
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
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Darryl@radio-active.net.au | www.radio-active.net.au

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## 116. [ss] Re: TAPR in Europe.

From: Jochen Feldhaar <feldhaar@yahoo.com>
Date: Wed, 11 Dec 2002 03:20:06 -0800 (PST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110544-2002.12.11-06.05.57--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello Darryl,

I am in Germany - that makes me European, I think...

I am subscribed now for more than half a year and
nobody so much as deigned to acknowledge any post I
made, while we get 5 posts on the same subject by the
same sender in a row....

And I am not fond of guys who link our hobby to
marketing, so "thanks but no thanks"

Greets
Jochen DH6FAZ

--- Darryl Smith <Darryl@radio-active.net.au> wrote:
> People...
>
> Anthony.N.Martin@marconimobile.com asked "Do you
> think there should be a
> european TAPR equivalent"
>
> When I was asked to stand for the board, one of the
> reasons was to make
> TAPR 'More International'. I think that I am slowly
> succeeding. One of
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> to get non-USA
> membership reduced to US$20/year. That means that
> you can join TAPR for
> the same price in Europe, the USA or in Asia. [If
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> from Europe, please email me. I would love to speak
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> I would love to have more europeans involved with
> TAPR, and for TAPR to
> be more involved in Europe. The question really is
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> a help, but realistically most people do not attend
> conferences - at
> least at the national level. Regional ones are
> another matter.
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> our national
> capital for a Sunday a month back - The story will
> be in the next issue

> of PSR. The symposium could be best described as a
> mini-dcc. TAPR
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> who put in a lot of
> work either presenting or organising. But of the
> prizes we presented,
> none were really free.
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> You see, we gave DCC proceedings to a couple of Hams
> who are actually
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> And we gave out about 20 application forms for TAPR
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> interested. Will this pay off? Well, it will take a
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> organisation that many of us love. But it needs more
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> country. Go to new Zealand now, and you will find
> one of the most
> extensive national APRS networks in the world.
> People over there are now
> really into the mode. That is the power of marketing
> to ham radio
>
> [Off topic... I have started writing my paper for
> next years DCC... It
> will probably be more important than any paper I
> have ever written for
> Ham Radio... It will be on Marketing Ham Radio... ]
>
> What place do I see for TAPR? I see it as an
> organisation with the job
> of connecting people, and providing the resources
> for those people to do
> things. I can see TAPR doing a microwave field
> strength meter kit. I
> know that TAPR funds various projects to extend the
> state of the art. We
> hold the annual DCC.
>
> Whilst I am here, I would encourage any people
> reading this who are not
> members of TAPR to join so that TAPR has the
> critical mass in order to
> do things in the Ham Radio community. You can join
> by visiting
> www.tapr.org
>
> Darryl
>
>
> BTW, for those that have not heard, the ARRL is
> sponsoring three new
> annual Awards.
>       ARRL TECHNICAL SERVICE AWARD
>       ARRL TECHNICAL INNOVATION AWARD
>       ARRL MICROWAVE DEVELOPMENT AWARD
>
> I am sure you can find more information about them
> on the ARRL web site.

> 
> Darryl
> 
> 
> 
> 
> 
> >Anthony.N.Martin@marconimobile.com wrote:
>  Do you think there should be a european TAPR
>  equivalent, and would TAPR have a role in helping
>  set one up? There are few europersons on SS-SIG;
>  not thru lack of SS or WLAN in europe. Is TAPR
>  not serving their needs well? Certainly conferences
>  in the USA aren't very helpful.
> ---------
> Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565
> Australia
> Mobile Number 0412 929 634 [+61 4 12 929 634
> International]
> Darryl@radio-active.net.au | www.radio-active.net.au
> 
> 
> 
> 
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> 


_____
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## 117. [ss] Re: TAPR in Europe.

From: Marius Hauki <marius.hauki@datarespons.no>
Date: Wed, 11 Dec 2002 12:47:49 +0100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110546-2002.12.11-06.33.00--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I think the post from Jochen does not represent the
common view by most european radio amateurs if I inderstand it
correctly. (Sorry if beeing off topic, but this is a TAPR list, right ?)

Marketing our hobby across borders to recruit more people is very
important in my view. This has nothing to do with poduct marketing.
Personally I have learned most of the practical
RF techniques and construction techniques that I use in my work from ham
radio experience, hams that are willing to share their knowledge and
technical hands on articles in ham magazines. I built the first TAPR TNC
kit when I was around 15 years old. That started my career as a
developer and introduced me to embedded microprosessor and analog
development. I also have many important business relationships today
that I were introduced to via ham radio.
TAPR does a great job when offering kits at a low cost, publishing
papers, working for standardisation, and giving technology introductions
and presentations at DCC and other important meetings. Hams all over the
world should definately cooperate to come up with new technology and new
  innovative ways of implementing designs. In almost every large
corporations dealing with high tech electronic products, hams are
positioned in key positions. The reason for this, I believe, is that
hams are often dedicated, have genuine interest in their profession, are
highly knowledgeable, have access to a good library of information,  and
have practical experience.

I think that TAPR should keep on marketing your organisation and
cooperate with european ham organisations.

73 de LA9EEA
Marius Hauki

Jochen Feldhaar wrote:

> Hello Darryl,
>
> I am in Germany - that makes me European, I think...
>
> I am subscribed now for more than half a year and
> nobody so much as deigned to acknowledge any post I
> made, while we get 5 posts on the same subject by the
> same sender in a row....
>
> And I am not fond of guys who link our hobby to
> marketing, so "thanks but no thanks"
>
> Greets
> Jochen DH6FAZ
>
>

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## 118. [ss] Re: DCC Articles

From: dubose@texas.net
Date: Wed, 11 Dec 2002 08:22:59 US/Central
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110561-2002.12.11-09.08.05--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> > I know that H323 and Speak Freely support peer-to-peer
> > conncetions.  Does
> > Jabber do this?  I thought it was on a chat type applications.
>
> Jabber is an open source replacement for ICQ like services and has server
> and client components.  The difference is that it's open source and Jabber
> servers can be setup indepent of the main Jabber network on the Internet, so
> we could have a ham Jabber network that only exists on RF. :)
>

I did some searching for myself and found that Bell South is in negotiation
(perhaps was now) to make this their "chat" option.

I personally think Jabber is preferred to IRC; but, am willing to accept any
rebuttal.

As far as H323 (OpenH323) goes, I like you or someone else said, SpeakFreely is
probably a better VoIP choice than H323 a.k.a NetMeeting to MS folks.  However,
since NetMeeting is the "common" app. for H323 in the MS world, and so many
appliance operators (SIC) are running MS, using H323 is a good choice.  Plus it
"does" video.

My personal choice for apps. is the following:

Chat - Jabber
VoIP - SpeakFreely
Teleconf - H323 (Netmeeting or OpenH323)

Each of the above will run on MS and OpenSystems.

Walt/K5YFW

```
---
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```

## 119. [ss] RE: How can TAPR support SS development..."Build the TAP R FS meter"

```
From: Anthony.N.Martin@marconimobile.com
Date: Wed, 11 Dec 2002 15:32:06 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110568-2002.12.11-10.16.57--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain
```

```
> > Now, how do you make an 802.11 WLAN device transmit as much
> > as possible to give you field to measure? Possibly by some piece
> > of software that makes it send a continuous stream of broadcast
> > packets so you don't need any other WLANs nearby that may upset
> > your readings.
> >
> > Can anyone sort this bit out?
>
> Hmm, a UDP flooding program perhaps?  or even ping -f
> some.fake.ip.address?

Of course!  ping -f . Everyone's got ping.
Should work with APs too.

I assume you mean -f = flood (on linux?).

Oops, ping -f doesn't flood on Windows-NT:

<<
Usage: ping [-t] [-a] [-n count] [-l size] [-f] [-i TTL] [-v TOS]
            [-r count] [-s count] [[-j host-list] | [-k host-list]]
            [-w timeout] destination-list

Options:
    -t             Ping the specifed host until interrupted.
    -a             Resolve addresses to hostnames.
    -n count       Number of echo requests to send.
    -l size        Send buffer size.
    -f             Set Don't Fragment flag in packet.      <------<<<
    -i TTL         Time To Live.
    -v TOS         Type Of Service.
    -r count       Record route for count hops.
    -s count       Timestamp for count hops.
    -j host-list   Loose source route along host-list.
    -k host-list   Strict source route along host-list.
    -w timeout     Timeout in milliseconds to wait for each reply.
>>

Have to check other MS platforms.

Win95: less options, no -f at all.

Pah! curses...

I'm frantically looking for ping in cygwin and not finding.
Anybody got GNU/Linux source for ping handy?

Ping on SunOS and Solaris don't have -f.
Solaris has -I  (interval) but it won't go below 1 second.

I'll check Linux & WinME when I get home.

UDP packets don't have acknowledges at the IP level,
but I think that any unicast packet gets acknowledges on
the wireless link, including UDP. Not getting acks will
generate plenty of retries; will that still allow saturation of
the WLAN Tx? In fact, you won't see the UDP ping packets;
what will happen first is an arp request from the IP stack to
find the MAC address for the bogus IP address which will
fail. The result could be cached and the flood might fail. If
the IP address is not on the local subnet the IP stack may
try to lookup a gateway instead, using arp, which fails...

If "ping -f" doesn't have the desired effect we need a
program that floods broadcasts via SOCK_RAW.
I think I remember seeing some test programs that
came with a LAN card that threw packets at a given
```

MAC address. Only works with one type of card.

I'll have a go at building a diode probe and see if it is
sensitive enough. I can use a sig-gen first of all and then
test it on a WLAN. Evening shedule full until next week...
It's that festive season again.

A field probe is pretty much a 1-man job. But we can use it
to test "the process". I can do the design but we'll see if by
the power of TAPR we can find people who will do the field
trials, the PCB layout, the kit, the pre-built unit, the website,
the handbook, distributors etc that are necessary to deliver
a project. TAPR seem very keen so solve all our problems
at the moment :^)

It would be a mighty fine thing if we can make the project
process "just work" as we can be confident in doing
bigger things.

I'm sure many great projects get stalled because of lack of
some skill or resource or other that TAPR could help find.

Ant

---
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## 120. [ss] Re: How can TAPR support SS development...

From: Anthony.N.Martin@marconimobile.com
Date: Wed, 11 Dec 2002 15:40:13 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110569-2002.12.11-10.25.02--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> >Do you think there should be a european TAPR equivalent,

> Isn't that Nordlink?  http://www.nordlink.org

I'll havalook at that site. On the face of it, it seems to exist to front a
piece of packet software called "TheNet". Nations in Europe
all seem to have their own favourite packet node software :-)
Some have formal organisation behind them, some don't.
Here's Flexnet:
http://www.afthd.tu-darmstadt.de/~flexnet/index.html

There are also national and regional organisations that
co-ordinate AX-25 packet networks, usually part of or
associated with national ham-radio societies. The one I
like best is the Slovenian one, with their 1Mb/s backbone:
http://www.hamradio.si/packet.html

There are also WLAN-specific groups, some with amateur
involvement, eg. http://www.wlan.org.uk

I suppose you're right EU groups "like TAPR" do exist.
But not in the same form or on the same scale. There are
too many "itty-bitty" groups to get stuff done.

There are many disadvantages to the setup in the EU.
Many groups are tightly allied to national radio societies...
there needs to be places where amateurs who want to
move beyond the status quo can associate and prepare
the case for change.

Many groups are fixated with AX-25 packet to the exclusion
of other datacomms technologies, be it PSK31 or 802.11
or some new homebrew system.

Groups are sub- 50 or 100 people and not large enough to
have much clout with authorities & suppliers. If you're
interested in high-rate datacomms you'd probably be
the only one in the group. I attended the 1st UK datacomms
day conference last year. It was considered successful;
there were about 50 attending, nearly all AX-25 sysops.
There are thought to be 9000 "active" amateurs in the UK,

of which say 10% might be interested in packet, of which
say 10% might be interested in construction, of which say
10% might be capable of new design, of which say 5%
might be interested in any particular new project. As you
can see, to get any motion on new developments requires
harnessing people from across Europe. Or doing it alone.

In fact there are quite a few heroic 1-person efforts, G8PZT's
 Xrouter software being one.
http://www.g8pzt.pwp.blueyonder.co.uk/software/software.htm

Where there are universities or research labs you may find
a few amateurs with similar skills and interests to get stuff
done.

Internationalisation of kits, built units & software and international
distribution seems to be another problem no-one's tackling.
Without doing it there isn't the volumes for making cheap PCBs
or modules, or holding stock of components. With modern
components, it isn't worth buying less than a reel of 5000.

Ant

---
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## 121. [ss] Re: TAPR in Europe.

From: "Geoff Edmonson" <w5omr@w5omr.shacknet.nu>
Date: Wed, 11 Dec 2002 09:42:53 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110570-2002.12.11-10.27.22--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> I am in Germany - that makes me European, I think...
>
> I am subscribed now for more than half a year and
> nobody so much as deigned to acknowledge any post I
> made, while we get 5 posts on the same subject by the
> same sender in a row....

This is the first post I've -ever- seen by you, and I've
been here for the last 6 months or so?

> And I am not fond of guys who link our hobby to
> marketing, so "thanks but no thanks"

I believe that there are people here who are trying to
keep the "Part 15 violators" in-check.  I am in favor of
that.

73 = Best Regards,
-=Geoff/W5OMR=-

---
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## 122. [ss] Part 97 <-> Part 15 at will?

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Wed, 11 Dec 2002 11:11:42 -0600 (CST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110572-2002.12.11-10.54.19--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Assuming you do not exceed the Part 15 power limits and do not break the
Part 15 certification, in theory one transmission could be Part 97 and
the next Part 15.  Much like when we take commerical mobile voice rigs and
program some ham stuff and some commerical stuff.  Its legal (assuming
your authorized to transmit on the commerical channels) because the radio
meets the certification requirements for both services.

Why would you want this in this situation?  Okay lets say you shoot a link
to another ham some distance away.  The link does not violate any of the

Part 15 requirements, but you perfer to reclassify this as Part 97, maybe
for the opperational protection.  Now within your house you have a
standard wireless network, Part 15 of course, same channel, talking to the
same Access Point or NIC, that your ham friend does.  This is an example
of Part 97 and Part 15 at will.  Any thoughts?

My next thought is maybe we should try get the automatic power wording
revised, instead or in addition to trying to get the limit upped before it
has to be implemented.  The current wording would be very difficult if not
impossible to implement with existing off the shelf hardware.  Maybe a
simpler method, where the received energy adjusts the same systems
transmitted energy.  Something that dosen't require software hooks.

---
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## 123. [ss] RE: How can TAPR support SS development..."Build the TAP R FS meter"

From: Bob Lorenzini <hwm@newportharbornet.com>
Date: Wed, 11 Dec 2002 08:21:56 -0800 (PST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110573-2002.12.11-11.07.03--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Wed, 11 Dec 2002 Anthony.N.Martin@marconimobile.com wrote:

>
> Win95: less options, no -f at all.
>
> Pah! curses...

IMHO this is a good thing.

Bob - wd6dod

---
You are currently subscribed to ss as: lyris.ss@tapr.org
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## 124. [ss] RE: Part 97 <-> Part 15 at will?

From: "Hare,Ed, W1RFI" <w1rfi@arrl.org>
Date: Wed, 11 Dec 2002 12:31:39 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110578-2002.12.11-12.16.47--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Now within your house you have a standard wireless network, Part 15
> of course, same channel, talking to the same Access Point or NIC,
> that your ham friend does.  This is an example of Part 97 and Part
> 15 at will.  Any thoughts?

I agree that Part 15 equipment can be used unmodified under Part 97, then used under Part 15 at a later time. It is Certificated for Part 15 and if used under Part 97, requires no Certification.  Bouncing back and forth is just fine as long as the equipment remains Certificated for Part 15 by virtue of not being modified. If a ham makes changes to equipment to operate in under Part 97, its Part 15 Certification is no longer valid.

73,
Ed Hare, W1RFI
ARRL Lab
225 Main St
Newington, CT 06111
Tel: 860-594-0318
Internet: w1rfi@arrl.org
Web: http://www.arrl.org/tis

ARRL is the National Association for Amateur Radio.  It is supported by membership dues, individual contributions and the sale of  publications and advertising. For more information about ARRL, go to http://www.arrl.org/news/features/inside-your-league.html. For more information about membership, go to http://www.arrl.org/join.html.  Your contribution can also help support ARRL's ongoing efforts to protect Amateur spectrum. Go to https://www.arrl.org/forms/development/donations/basic/ to learn more about the ways you can support the ARRL programs and activities of most importance to you. You can help ARRL protect Amateur Radio for you and future generations to enjoy.

>

---

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## 125. [ss] Re: Microwave oven detectors

From: Anthony.N.Martin@marconimobile.com
Date: Wed, 11 Dec 2002 17:58:37 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110587-2002.12.11-12.43.28--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> http://www.lessemf.com/mw-oven.html

> The Less-EMF site is a lot of smoke and mirrors, but the price is right.
:-)

> 73,
> Ed Hare, W1RFI

Great surfing Ed!

Neat little gadget. $30 for a 2.4GHz digital field
strength meter.

I want one for christmas...

... Shipping $22 for EMS or $42 for fedex outside US

:-(

Anybody know the OEM and model no. and I'll go surfing
the local shops.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 126. [ss] RE: How can TAPR support SS development..."Build the TAP R FS meter"

From: Gerry Creager <gerry.creager@tamu.edu>
Date: Tue, 10 Dec 2002 22:24:39 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110588-2002.12.11-12.44.50--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Simple answer: Yes.  Longer answer:  You're promised 11 Mb/s, you
achieve 5.5 Mb/s each way.  More marketing, less bandwidth.  When you
add that to channel sharing, collisions, etc.  you can start really
limiting bandwidth.

802.11a provides a lot more bandwidth, at the expense of more spectrum.

Gerry

Geoff Edmonson wrote:
>>If you were 'sending' a large file, it was stopping to look for ACK.
>>It's half-duplex.  It could have seen a bit of a delay, detectable by
>>human ears, getting an ACK turned around.
>
>
> er?
>
> 802.11b Spread Spectrum Wireless Network connection is half-duplex?
>
>
>
>
> ---
> You are currently subscribed to ss as: gerry.creager@tamu.edu
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

--
Gerry Creager -- gerry.creager@tamu.edu
Network Engineering -- AATLT, Texas A&M University
Office: 979.458.4020  FAX: 979.847.8578

Cell: 979.229.5301    Pager: 979.228.0173

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 127. [ss] Re: Microwave oven detectors

From: dubose@texas.net
Date: Wed, 11 Dec 2002 12:11:54 US/Central
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110596-2002.12.11-12.57.02--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I wanna a 2.4 GHz Power Meter or SWR bridge.   -- k5yfw
> > > http://www.lessemf.com/mw-oven.html
> > > The Less-EMF site is a lot of smoke and mirrors, but the price is right.
> :-)
> > > 73,
> > > Ed Hare, W1RFI
> Great surfing Ed!
> Neat little gadget. $30 for a 2.4GHz digital field
> strength meter.
> I want one for christmas...
> .... Shipping $22 for EMS or $42 for fedex outside US
> :-(
> Anybody know the OEM and model no. and I'll go surfing
> the local shops.
> ---
> You are currently subscribed to ss as: dubose@texas.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
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## 128. [ss] RE: How can TAPR support SS development...Build the TAP R FS meter

From: dubose@texas.net
Date: Wed, 11 Dec 2002 12:12:48 US/Central
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110597-2002.12.11-12.58.01--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Pray for 802.11g  -- k5yfw
> Simple answer: Yes.  Longer answer:  You're promised 11 Mb/s, you
> achieve 5.5 Mb/s each way.  More marketing, less bandwidth.  When you
> add that to channel sharing, collisions, etc.  you can start really
> limiting bandwidth.
> 802.11a provides a lot more bandwidth, at the expense of more spectrum.
> Gerry
> Geoff Edmonson wrote:
> >>If you were 'sending' a large file, it was stopping to look for ACK.
> >>It's half-duplex.  It could have seen a bit of a delay, detectable by
> >>human ears, getting an ACK turned around.
> > >
> > > er?

> >
> > 802.11b Spread Spectrum Wireless Network connection is half-duplex?
> >
> >
> >
> >
> > ---
> > You are currently subscribed to ss as: gerry.creager@tamu.edu
> > To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>
> --
> Gerry Creager -- gerry.creager@tamu.edu
> Network Engineering -- AATLT, Texas A&M University
> Office: 979.458.4020  FAX: 979.847.8578
> Cell: 979.229.5301    Pager: 979.228.0173
>
>
>
> ---
> You are currently subscribed to ss as: dubose@texas.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 129. [ss] RE: How can TAPR support SS development...Build the TAP R FS meter

From: Gerry Creager <gerry.creager@tamu.edu>
Date: Wed, 11 Dec 2002 12:24:10 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110598-2002.12.11-13.09.54--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

A bunch (not just 1 or 2) of the wireless vendors we're talking to say
11g is dead on arrival.  Cisco is still making efforts that way, but
doesn't really plan to deploy until they see a real market, meaning
they'll have to build cards after the market develops, then claim to
have created the need!

gerry

dubose@texas.net wrote:
> Pray for 802.11g  -- k5yfw
>
>>Simple answer: Yes.  Longer answer:  You're promised 11 Mb/s, you
>>achieve 5.5 Mb/s each way.  More marketing, less bandwidth.  When you
>>add that to channel sharing, collisions, etc.  you can start really
>>limiting bandwidth.
>>
>>802.11a provides a lot more bandwidth, at the expense of more spectrum.
>>
>>Gerry
>>
>>Geoff Edmonson wrote:
>>
>>>>If you were 'sending' a large file, it was stopping to look for ACK.
>>>>It's half-duplex.  It could have seen a bit of a delay, detectable by
>>>>human ears, getting an ACK turned around.
>>>
>>>
>>>er?
>>>
>>>802.11b Spread Spectrum Wireless Network connection is half-duplex?
>>>
>>>
>>>
>>>
>>>---
>>>You are currently subscribed to ss as: gerry.creager@tamu.edu
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>>
>>
>>--
>>Gerry Creager -- gerry.creager@tamu.edu
>>Network Engineering -- AATLT, Texas A&M University

>>Office: 979.458.4020  FAX: 979.847.8578
>>Cell: 979.229.5301    Pager: 979.228.0173
>>
>>
>>
>>---
>>You are currently subscribed to ss as: dubose@texas.net
>>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>>
>
>
>
>
> ---
> You are currently subscribed to ss as: gerry.creager@tamu.edu
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org


--
Gerry Creager -- gerry.creager@tamu.edu
Network Engineering -- AATLT, Texas A&M University
Office: 979.458.4020  FAX: 979.847.8578
Cell: 979.229.5301    Pager: 979.228.0173



---
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## 130. [ss] Re: Microwave oven detectors

From: "Hare,Ed, W1RFI" <w1rfi@arrl.org>
Date: Wed, 11 Dec 2002 13:34:48 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110599-2002.12.11-13.19.54--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Maybe good surfing.  The device will probably have a full-scale reading somewhere around 2 millwatts/cm^2. This would have to be very close to PC 802.11 devices to give a useful reading.  For a high-gain antenna, one may have to be in the near-field region to get a useful deflection.

Possibly could be amplified by an MMIC amplifier before the diode, though -- some of the Avantek or Mini Circuits devices do quite well on 2.4 GHz.  Another technique may be a log amp on the diode output, to give a somewhat linear input-vs-output response.

Seeing as the device has a reasonable 2.4 GHz antenna and detector, maybe the best article is how to modify it to be useful as a field-strength meter. :-)

73,
Ed Hare, W1RFI
ARRL Lab
225 Main St
Newington, CT 06111
Tel: 860-594-0318
Internet: w1rfi@arrl.org
Web: http://www.arrl.org/tis



> -----Original Message-----
> From: Anthony.N.Martin@marconimobile.com
> [mailto:Anthony.N.Martin@marconimobile.com]
> Sent: Wednesday, December 11, 2002 12:59 PM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: Microwave oven detectors
>
>
>
> > http://www.lessemf.com/mw-oven.html
>
> > The Less-EMF site is a lot of smoke and mirrors, but the
> price is right.
> :-)
>
> > 73,
> > Ed Hare, W1RFI
>
> Great surfing Ed!
>

> Neat little gadget. $30 for a 2.4GHz digital field
> strength meter.
>
>
> I want one for christmas...
>
>
> ... Shipping $22 for EMS or $42 for fedex outside US
>
> :-(
>
> Anybody know the OEM and model no. and I'll go surfing
> the local shops.
>
>
>
>
> ---
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## 131. [ss] Re: TAPR in Europe.

From: Jeff King <jeff@aerodata.net>
Date: Wed, 11 Dec 2002 13:24:08 -0600 (CST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110605-2002.12.11-14.09.30--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Darryl:

Contact these folks:

htt://www.nordlink.org

If these folks are still actively involved in packet and it is a membership
organization similar to TAPR, I think TAPR would be better served by generating
a alliance with this Europeon group instead of reinventing the wheel. And there
is precedence here in the sense of TAPR's relationship with PRUG (a Japanese
packet radio group).

Good luck

-Jeff


Quoting Darryl Smith <Darryl@radio-active.net.au>:

> People...
>
> Anthony.N.Martin@marconimobile.com asked "Do you think there should be
> a
> european TAPR equivalent"
>
> When I was asked to stand for the board, one of the reasons was to
> make
> TAPR 'More International'. I think that I am slowly succeeding. One of
> the first things I brought up at the TAPR Board was to get non-USA
> membership reduced to US$20/year. That means that you can join TAPR
> for
> the same price in Europe, the USA or in Asia. [If you are reading this
> from Europe, please email me. I would love to speak to you]
>
> I would love to have more europeans involved with TAPR, and for TAPR
> to
> be more involved in Europe. The question really is how. Conferences
> are
> a help, but realistically most people do not attend conferences - at
> least at the national level. Regional ones are another matter.
>
> Here in Australia there was a TECHNICAL SYMPOSIUM in our national
> capital for a Sunday a month back - The story will be in the next
> issue
> of PSR. The symposium could be best described as a mini-dcc. TAPR

> supported this symposium with some prizes for people who put in a lot
> of
> work either presenting or organising. But of the prizes we presented,
> none were really free.
>
> You see, we gave DCC proceedings to a couple of Hams who are actually
> doing real work in Ham Radio, and will probably write a paper for the
> conference next year. We gave a TAPR software CD to a ham who produces
> a
> CD of software and maps for the APRS community in the national
> capital.
> And we gave out about 20 application forms for TAPR for people who
> were
> interested. Will this pay off? Well, it will take a little while, but
> yes, it will.
>
> I was going to say that TAPR needs people in Europe to help us market
> an
> organisation that many of us love. But it needs more than that. It
> really needs people throught the world, including the USA, to help
> market the organisation. It is amazing what some simple marketing can
> do. Back in 1999, I went to the national conference of the NZART (ARRL
> for New Zealand) and spoke at their conference on APRS. I then spent
> the
> next couple of weeks doing another SEVEN talks on APRS arround the
> country. Go to new Zealand now, and you will find one of the most
> extensive national APRS networks in the world. People over there are
> now
> really into the mode. That is the power of marketing to ham radio
>
> [Off topic... I have started writing my paper for next years DCC... It
> will probably be more important than any paper I have ever written for
> Ham Radio... It will be on Marketing Ham Radio... ]
>
> What place do I see for TAPR? I see it as an organisation with the job
> of connecting people, and providing the resources for those people to
> do
> things. I can see TAPR doing a microwave field strength meter kit. I
> know that TAPR funds various projects to extend the state of the art.
> We
> hold the annual DCC.
>
> Whilst I am here, I would encourage any people reading this who are
> not
> members of TAPR to join so that TAPR has the critical mass in order to
> do things in the Ham Radio community. You can join by visiting
> www.tapr.org
>
> Darryl
>
>
> BTW, for those that have not heard, the ARRL is sponsoring three new
> annual Awards.
>       ARRL TECHNICAL SERVICE AWARD
>       ARRL TECHNICAL INNOVATION AWARD
>       ARRL MICROWAVE DEVELOPMENT AWARD
>
> I am sure you can find more information about them on the ARRL web
> site.
>
> Darryl
>
>
>
>
>
> >Anthony.N.Martin@marconimobile.com wrote:
>  Do you think there should be a european TAPR
>  equivalent, and would TAPR have a role in helping
>  set one up? There are few europersons on SS-SIG;
>  not thru lack of SS or WLAN in europe. Is TAPR
>  not serving their needs well? Certainly conferences
>  in the USA aren't very helpful.
> ---------
> Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
> Mobile Number 0412 929 634 [+61 4 12 929 634 International]
> Darryl@radio-active.net.au | www.radio-active.net.au
>
>

> 
> ---
> You are currently subscribed to ss as: jeff@aerodata.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
> 
> 

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 132. [ss] Re: TAPR in Europe.

From: Jeff King <jeff@aerodata.net>
Date: Wed, 11 Dec 2002 13:28:35 -0600 (CST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110606-2002.12.11-14.13.48--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello Jochen:

Is Nordlink still active? I see there website has been recently updated so I
assume so, but I cannot determine if they are a membership group or just a
informal group of very talented people.

Regards,

Jeff


Quoting Jochen Feldhaar <feldhaar@yahoo.com>:

> Hello Darryl,
> 
> I am in Germany - that makes me European, I think...
> 
> I am subscribed now for more than half a year and
> nobody so much as deigned to acknowledge any post I
> made, while we get 5 posts on the same subject by the
> same sender in a row....
> 
> And I am not fond of guys who link our hobby to
> marketing, so "thanks but no thanks"
> 
> Greets
> Jochen DH6FAZ
> 
> --- Darryl Smith <Darryl@radio-active.net.au> wrote:
> > People...
> > 
> > Anthony.N.Martin@marconimobile.com asked "Do you
> > think there should be a
> > european TAPR equivalent"
> > 
> > When I was asked to stand for the board, one of the
> > reasons was to make
> > TAPR 'More International'. I think that I am slowly
> > succeeding. One of
> > the first things I brought up at the TAPR Board was
> > to get non-USA
> > membership reduced to US$20/year. That means that
> > you can join TAPR for
> > the same price in Europe, the USA or in Asia. [If
> > you are reading this
> > from Europe, please email me. I would love to speak
> > to you]
> > 
> > I would love to have more europeans involved with
> > TAPR, and for TAPR to
> > be more involved in Europe. The question really is
> > how. Conferences are
> > a help, but realistically most people do not attend
> > conferences - at
> > least at the national level. Regional ones are
> > another matter.
> > 
> > Here in Australia there was a TECHNICAL SYMPOSIUM in
> > our national
> > capital for a Sunday a month back - The story will
> > be in the next issue

> > of PSR. The symposium could be best described as a
> > mini-dcc. TAPR
> > supported this symposium with some prizes for people
> > who put in a lot of
> > work either presenting or organising. But of the
> > prizes we presented,
> > none were really free.
> >
> > You see, we gave DCC proceedings to a couple of Hams
> > who are actually
> > doing real work in Ham Radio, and will probably
> > write a paper for the
> > conference next year. We gave a TAPR software CD to
> > a ham who produces a
> > CD of software and maps for the APRS community in
> > the national capital.
> > And we gave out about 20 application forms for TAPR
> > for people who were
> > interested. Will this pay off? Well, it will take a
> > little while, but
> > yes, it will.
> >
> > I was going to say that TAPR needs people in Europe
> > to help us market an
> > organisation that many of us love. But it needs more
> > than that. It
> > really needs people throught the world, including
> > the USA, to help
> > market the organisation. It is amazing what some
> > simple marketing can
> > do. Back in 1999, I went to the national conference
> > of the NZART (ARRL
> > for New Zealand) and spoke at their conference on
> > APRS. I then spent the
> > next couple of weeks doing another SEVEN talks on
> > APRS arround the
> > country. Go to new Zealand now, and you will find
> > one of the most
> > extensive national APRS networks in the world.
> > People over there are now
> > really into the mode. That is the power of marketing
> > to ham radio
> >
> > [Off topic... I have started writing my paper for
> > next years DCC... It
> > will probably be more important than any paper I
> > have ever written for
> > Ham Radio... It will be on Marketing Ham Radio... ]
> >
> > What place do I see for TAPR? I see it as an
> > organisation with the job
> > of connecting people, and providing the resources
> > for those people to do
> > things. I can see TAPR doing a microwave field
> > strength meter kit. I
> > know that TAPR funds various projects to extend the
> > state of the art. We
> > hold the annual DCC.
> >
> > Whilst I am here, I would encourage any people
> > reading this who are not
> > members of TAPR to join so that TAPR has the
> > critical mass in order to
> > do things in the Ham Radio community. You can join
> > by visiting
> > www.tapr.org
> >
> > Darryl
> >
> >
> > BTW, for those that have not heard, the ARRL is
> > sponsoring three new
> > annual Awards.
> >     ARRL TECHNICAL SERVICE AWARD
> >     ARRL TECHNICAL INNOVATION AWARD
> >     ARRL MICROWAVE DEVELOPMENT AWARD
> >
> > I am sure you can find more information about them
> > on the ARRL web site.

> >
> > Darryl
> >
> >
> >
> >
> >
> > >Anthony.N.Martin@marconimobile.com wrote:
> >  Do you think there should be a european TAPR
> >  equivalent, and would TAPR have a role in helping
> >  set one up? There are few europersons on SS-SIG;
> >  not thru lack of SS or WLAN in europe. Is TAPR
> >  not serving their needs well? Certainly conferences
> >  in the USA aren't very helpful.
> > ---------
> > Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565
> > Australia
> > Mobile Number 0412 929 634 [+61 4 12 929 634
> > International]
> > Darryl@radio-active.net.au | www.radio-active.net.au
> >
> >
> >
> >
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>
> _____________________________________________
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> http://mailplus.yahoo.com
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## 133. [ss] Re: How can TAPR support SS development...

From: Jeff King <jeff@aerodata.net>
Date: Wed, 11 Dec 2002 13:38:38 -0600 (CST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110607-2002.12.11-14.23.55--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

So, what you saying is you don't know?

Maybe some of our German readers can chime in.

-Jeff


Quoting Anthony.N.Martin@marconimobile.com:

>
> > >Do you think there should be a european TAPR equivalent,
>
> > Isn't that Nordlink?  http://www.nordlink.org
>
> I'll havalook at that site. On the face of it, it seems to exist to
> front a
> piece of packet software called "TheNet". Nations in Europe
> all seem to have their own favourite packet node software :-)
> Some have formal organisation behind them, some don't.
> Here's Flexnet:
> http://www.afthd.tu-darmstadt.de/~flexnet/index.html
>
> There are also national and regional organisations that
> co-ordinate AX-25 packet networks, usually part of or
> associated with national ham-radio societies. The one I

> like best is the Slovenian one, with their 1Mb/s backbone:
> http://www.hamradio.si/packet.html
>
> There are also WLAN-specific groups, some with amateur
> involvement, eg. http://www.wlan.org.uk
>
> I suppose you're right EU groups "like TAPR" do exist.
> But not in the same form or on the same scale. There are
> too many "itty-bitty" groups to get stuff done.
>
> There are many disadvantages to the setup in the EU.
> Many groups are tightly allied to national radio societies...
> there needs to be places where amateurs who want to
> move beyond the status quo can associate and prepare
> the case for change.
>
> Many groups are fixated with AX-25 packet to the exclusion
> of other datacomms technologies, be it PSK31 or 802.11
> or some new homebrew system.
>
> Groups are sub- 50 or 100 people and not large enough to
> have much clout with authorities & suppliers. If you're
> interested in high-rate datacomms you'd probably be
> the only one in the group. I attended the 1st UK datacomms
> day conference last year. It was considered successful;
> there were about 50 attending, nearly all AX-25 sysops.
> There are thought to be 9000 "active" amateurs in the UK,
> of which say 10% might be interested in packet, of which
> say 10% might be interested in construction, of which say
> 10% might be capable of new design, of which say 5%
> might be interested in any particular new project. As you
> can see, to get any motion on new developments requires
> harnessing people from across Europe. Or doing it alone.
>
> In fact there are quite a few heroic 1-person efforts, G8PZT's
>  Xrouter software being one.
> http://www.g8pzt.pwp.blueyonder.co.uk/software/software.htm
>
> Where there are universities or research labs you may find
> a few amateurs with similar skills and interests to get stuff
> done.
>
> Internationalisation of kits, built units & software and international
> distribution seems to be another problem no-one's tackling.
> Without doing it there isn't the volumes for making cheap PCBs
> or modules, or holding stock of components. With modern
> components, it isn't worth buying less than a reel of 5000.
>
> Ant
>
>
>
>
> ---
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>
>

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## 134. [ss] Re: Part 97 <-> Part 15 at will?

From: Jeff King <jeff@aerodata.net>
Date: Wed, 11 Dec 2002 13:43:53 -0600 (CST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110608-2002.12.11-14.29.03--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Yes, but this reminds me of the other day in my daughter's violin class when
the children were asking why the "green room" was not painted green. A good
question without a good answer.

My take on it is if you have a good reason to run under part 15, I'd suggest it
is not a good idea to go back and forth, even though in theory you could.

-Jeff

Quoting Steve Lampereur <kb9mwr@yahoo.com>:

> Assuming you do not exceed the Part 15 power limits and do not break
> the
> Part 15 certification, in theory one transmission could be Part 97 and
> the next Part 15.  Much like when we take commerical mobile voice rigs
> and
> program some ham stuff and some commerical stuff.  Its legal (assuming
> your authorized to transmit on the commerical channels) because the
> radio
> meets the certification requirements for both services.
>
> Why would you want this in this situation?  Okay lets say you shoot a
> link
> to another ham some distance away.  The link does not violate any of
> the
> Part 15 requirements, but you perfer to reclassify this as Part 97,
> maybe
> for the opperational protection.  Now within your house you have a
> standard wireless network, Part 15 of course, same channel, talking to
> the
> same Access Point or NIC, that your ham friend does.  This is an
> example
> of Part 97 and Part 15 at will.  Any thoughts?
>
> My next thought is maybe we should try get the automatic power wording
> revised, instead or in addition to trying to get the limit upped before
> it
> has to be implemented.  The current wording would be very difficult if
> not
> impossible to implement with existing off the shelf hardware.  Maybe a
> simpler method, where the received energy adjusts the same systems
> transmitted energy.  Something that dosen't require software hooks.
>
>
> ---
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>

---
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## 135. [ss] Re: TAPR in Europe.

From: Thomas Allen <tmallen@adelphia.net>
Date: Wed, 11 Dec 2002 12:02:47 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: w7yr@mindspring.com
Message-ID: <LYR6751-110613-2002.12.11-14.47.33--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Ah yes, NordLink, the infamous Amateur Radio group that stole Net/ROM and
boldly denied their actions in public until TAPR pressed the issue.

TAPR would be better served by NOT aligning with them.

Tom, W7YR

At 13.24 2002-12-11 -0600, you wrote:
 >Darryl:
 >Contact these folks:
 >htt://www.nordlink.org
 >
 >If these folks are still actively involved in packet and it is a membership
 >organization similar to TAPR, I think TAPR would be better served by
 >generating a alliance with this Europeon group instead of reinventing
 >the wheel. And there is precedence here in the sense of TAPR's relationship
 >with PRUG (a Japanese packet radio group).
 >
 >Good luck
 >-Jeff


---
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## 136. [ss] Re: TAPR in Europe.

From: Jeff King <jeff@aerodata.net>
Date: Wed, 11 Dec 2002 15:17:49 -0600 (CST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110616-2002.12.11-16.02.57--lyris.ss#tapr.org@lists.tapr.org>
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Actually, every group has their Skelton's in the closet, even TAPR. This is no different.

When I posted this suggestion, I was afraid of attracting gossip mongers such as yourself, as even 10+ years later, with a whole different group of people, we still have hams that just can't grow up and get over allegations that where never proved and where strongly denied by NordLink. (and yes, I run my own small business and thoughly reviewed the NordLink case... the evidence, while compelling, never quite rang true to me.... I mean, it was clearly a legal issue between two business entities but why was it only addressed with mudslinging and never in a legal manner??  I tend to put my faith in the law and not the friend of the friend's opinion or a personal slander campaign which as demonstrated by you,  to this day has not stopped.)

But lets cut this off right away, OK? So, your suggesting, that TAPR not align it with a group, who it was alleged 10+ years ago, commited a wrong-doing? Fully realizing, without any investigation (which seems to be a trademark of your types) that you have no idea if the same people are even involved? (and the *allegations* never directly involved Nordlink per say, just one member of the group).

Is it no doubt why TAPR is having a problem in Europe? GET OVER IT PEOPLE.

-Jeff

Quoting Thomas Allen <tmallen@adelphia.net>:

> Ah yes, NordLink, the infamous Amateur Radio group that stole Net/ROM
> and
> boldly denied their actions in public until TAPR pressed the issue.
>
> TAPR would be better served by NOT aligning with them.
>
> Tom, W7YR
>
> At 13.24 2002-12-11 -0600, you wrote:
>  >Darryl:
>  >Contact these folks:
>  >htt://www.nordlink.org
>  >
>  >If these folks are still actively involved in packet and it is a
> membership
>  >organization similar to TAPR, I think TAPR would be better served by
>  >generating a alliance with this Europeon group instead of
> reinventing
>  >the wheel. And there is precedence here in the sense of TAPR's
> relationship
>  >with PRUG (a Japanese packet radio group).
>  >
>  >Good luck
>  >-Jeff
>
>
> ---
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---
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## 137. [ss] Re: TAPR in Europe.

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Thu, 12 Dec 2002 08:36:30 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110620-2002.12.11-16.21.43--lyris.ss#tapr.org@lists.tapr.org>
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> Marketing our hobby across borders to recruit more people is very
> important in my view. This has nothing to do with poduct marketing.

I agree 100%.  In fact, I'd go as far as to say that a lot of our problems with an ageing ham population/lack of newcomers, declining on air activity and general lack of profile (ask the average person on the street - at least in Australia - what amateur radio is, and they won't have a clue) is because we don't market ourselves effectively to the general population.  People bemoan the fact that the Internet and other activities are "taking" young people away from amateur radio, but don't do anything to raise our profile, or present our hobby as something that technically minded young people would want to get into (and if you present it right, they WILL come - I have seen that myself).  802.11b is one opportunity I'm investigating as a way to market ourselves to prospective new hams.

> Personally I have learned most of the practical
> RF techniques and construction techniques that I use in my
> work from ham

I've used ham radio in a number of ways at work, even though I don't work in the industry.  However, at the enormous data rates of modern data comms, not to mention the increasing use of wireless devices, RF understanding becomes more important.  Even mundane things like getting good reception for a "music on hold" radio or locating long forgotten cable runs (anyone for a foxhunt? :) ) can benefit from a bit of good old RF knowledge.

> radio experience, hams that are willing to share their knowledge and
> technical hands on articles in ham magazines. I built the
> first TAPR TNC
> kit when I was around 15 years old. That started my career as a

I got heavily into packet radio in the early 1990's.  At the time I was studying electronic engineering at uni - and data comms covered things such as HDLC and TCP/IP.  Back then, I configured NOS and G8BPQ as a multi-protocol router (TCP/IP and NET/ROM) for part of the packet network here, and had the advantage of being able to watch TCP handshakes in real time(and slow enough to follow! :) ).  For me, TCP/IP wasn't just something you read about at uni, it was real.  Not surprisingly, I've never had problems understanding TCP/IP in the commercial environment (these days, it's bread and butter stuff).  But my knowledge was built on that early packet radio foundation.

>   innovative ways of implementing designs. In almost every large
> corporations dealing with high tech electronic products, hams are
> positioned in key positions. The reason for this, I believe, is that
> hams are often dedicated, have genuine interest in their
> profession, are
> highly knowledgeable, have access to a good library of
> information,  and
> have practical experience.

I think you have a point.  What makes a good technical person is often what drives a ham to try new things, or improve the performance of their station. Not only a drive to improve their setup, but a desire to learn how things work and push the boundaries further.  I'm the same.  In more recent times, I've pulled apart the scripts on my IRLP box and have added a lot of extra functionality that's not available in the standard distribution. :-)  Many people get into ham radio, because they enjoy learning.  That's an excellent trait to have when working in the IT field, as the playing field is constantly changing. :)

>
> I think that TAPR should keep on marketing your organisation and
> cooperate with european ham organisations.

Agreed there (in the global sense).

---
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## 138. [ss] Military application of 802.11b

From: Stewart Teaze <horseshoe7@yahoo.com>
Date: Wed, 11 Dec 2002 14:09:08 -0800 (PST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110627-2002.12.11-16.54.30--lyris.ss#tapr.org@lists.tapr.org>
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OK, imagine you have a military application for 802.11b, and you are not limited by Part 15 restrictions(application logistics will limit us to using a semi-remoted 3dBi gain omni at one site, but we can use a high-gain dish at the other site). Given that we want to keep the RF device costs below $2000 per site - what would you folks recommend for hardware manufacturers/models, as far as higher power output/high quality solutions (given that we want to operate at a minimum of 4Mbps, and obtain the maximum possible range)? We currently are using Breezecom equipment in another application here, but it has a limitation of 2Mbps top speed, which won't meet our minimum thruput requirements.
- Stewart

---
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## 139. [ss] RE: [ss] RE: [ss] RE: How can TAPR support SS development..."Build the TAPR FS meter"

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Thu, 12 Dec 2002 09:42:53 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: Hare,Ed, W1RFI <w1rfi@arrl.org>
Message-ID: <LYR6751-110629-2002.12.11-17.28.15--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I think the idea of using a FS meter is flawed--how do you know there

are no significant interference sources? The local VHF/microwave

Take a baseline reading over a period of time. If the level of interference is too high, you know the results will be flawed. So to me, the answer is obvious, measure the environment. Now if there is significant interference, there are two answers: Relocate the tests or use higher power and run it as a ham test (taking care not to unduly interfere with anyone else).

contest group gave up the idea of using signal sources and detectors to measure antennas years ago--we now wait for Joe Reisert to bring his HP network analyzer to the conference.
Just imagine someone trying to measure antennas in San Diego, CA, thinking there wasn't a signal source out in the Pacific ocean, before an illegal 2.4GHz wireless link was shut down (it was used by scientific researchers to get data from an island).
Now that the technology is widely available, it makes more sense to set up communication links and measure the degradation in bit error rate.

There's a point, though we were specifically discussing measuring antenna gain, not link performance.

---
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## 140. [ss] RE: How can TAPR support SS development..."Build the TAP R FS meter"

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Thu, 12 Dec 2002 09:47:59 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110630-2002.12.11-17.33.17--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> > Hmm, a UDP flooding program perhaps?  or even ping -f
> > some.fake.ip.address?
>
> Of course!  ping -f . Everyone's got ping.
> Should work with APs too.
>
> I assume you mean -f = flood (on linux?).

Yes, -f is flood on Linux (and probably the *BSD OSs as well).
>
> Oops, ping -f doesn't flood on Windows-NT:
>
> <<
> Usage: ping [-t] [-a] [-n count] [-l size] [-f] [-i TTL] [-v TOS]
>             [-r count] [-s count] [[-j host-list] | [-k host-list]]
>             [-w timeout] destination-list

Hmm, lame version of ping... :-(

---
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## 141. [ss] RE: Military application of 802.11b

From: "Steve Stroh" <lists@strohpub.com>
Date: Wed, 11 Dec 2002 14:54:54 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110631-2002.12.11-17.41.14--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Suggest you post this to the isp-wireless mailing list -
www.isp-wireless.com. You should get lots of offers to help.

Thanks,

Steve N8GNJ

--
Steve Stroh   steve@strohpub.com  425-481-0600

-----Original Message-----
From: bounce-ss-24593@lists.tapr.org
[mailto:bounce-ss-24593@lists.tapr.org]On Behalf Of Stewart Teaze
Sent: Wednesday, December 11, 2002 14:09
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] Military application of 802.11b

OK, imagine you have a military application for 802.11b, and you are not
limited by Part 15 restrictions(application logistics will limit us to using
a semi-remoted 3dBi gain omni at one site, but we can use a high-gain dish
at the other site).  Given that we want to keep the RF device costs below
$2000 per site - what would you folks recommend for hardware
manufacturers/models, as far as higher power output/high quality solutions
(given that we want to operate at a minimum of 4Mbps, and obtain the maximum
possible range)?  We currently are using Breezecom equipment in another

application here, but it has a limitation of 2Mbps top speed, which won't
meet our minimum thruput requirements.
- Stewart

---
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## 142. [ss] Re: Military application of 802.11b

From: Walt DuBose <dubose@texas.net>
Date: Wed, 11 Dec 2002 18:24:11 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110664-2002.12.11-19.08.43--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Stewart Teaze wrote:
>
> OK, imagine you have a military application for 802.11b, and you are not limited by Part 15
restrictions(application logistics will limit us to using a semi-remoted 3dBi gain omni at one site, but
we can use a high-gain dish at the other site). Given that we want to keep the RF device costs below
$2000 per site - what would you folks recommend for hardware manufacturers/models, as far as higher
power output/high quality solutions (given that we want to operate at a minimum of 4Mbps, and obtain the
maximum possible range)? We currently are using Breezecom equipment in another application here, but
it has a limitation of 2Mbps top speed, which won't meet our minimum thruput requirements.
>
> - Stewart
>

Stewart,

I have heard that the DoD is NOW allowing 802.11b on 5 GHz with
additional encryption (3rd party encryption) above the 128 bit
encryption for flight line use...i.e. where they have
unclassified technical order information on PC. out to the
aircraft and maintenance information to and from aircraft.

Also, some "operation" is being allowed intra and inter building
where wire or fiber is not practical.

As far as tactical/operational use of 802.11b, I think the Army
has tried it. The Navy is using it but I understand they are not
using the normal 802.11b channels and are using 3rd party
encryption.

Currently the DoD has deployed ultra secure 10 Mbps or so high
power point-to-point links which I am sure is proprietary stuff.

As far as what our EOC group needs, we need at least 4 watt
output into a 15 db antenna to make our links work. 5-6 watts
would be better.

Walt/K5YFW

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 143. [ss] Re: Military application of 802.11b

From: Jeff King <jeff@aerodata.net>
Date: Wed, 11 Dec 2002 22:38:11 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110682-2002.12.11-22.23.41--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Stewart:

For these kinds of links, most folks are using the KarlNet software due to
timing issues with these long links on 802.11b (including your good friends
at UCSD ;-).

He (Karlnet) has been in the spread spectrum scene since the early days,
originally developed his software for Ohio State. See:

http://www.karlnet.net/

They (Karlnet) modified the firmware on the Orinico cards to do a form of

polling, seems to be one of the bigger hits among the WISP's.

-Jeff
--
Jeff King, jeff@aerodata.net on 12/11/2002


On Wed, 11 Dec 2002 14:09:08 -0800 (PST), Stewart Teaze wrote:
>OK, imagine you have a military application for 802.11b, and you are
>not limited by Part 15 restrictions(application logistics will limit
>us to using a semi-remoted 3dBi gain omni at one site, but we can
>use a high-gain dish at the other site).  Given that we want to keep
>the RF device costs below $2000 per site - what would you folks
>recommend for hardware manufacturers/models, as far as higher power
>output/high quality solutions (given that we want to operate at a
>minimum of 4Mbps, and obtain the maximum possible range)?  We
>currently are using Breezecom equipment in another application here,
>but it has a limitation of 2Mbps top speed, which won't meet our
>minimum thruput requirements.
>
>- Stewart
>
>
>Do you Yahoo!?
>Yahoo! Mail Plus - Powerful. Affordable. Sign up now

---
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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 144. [ss] RE: Part 97 <-> Part 15 at will?

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Thu, 12 Dec 2002 17:38:49 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110713-2002.12.12-01.29.24--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve Lampereur <kb9mwr@yahoo.com> commented
        My next thought is maybe we should try get the automatic power
wording
        revised, instead or in addition to trying to get the limit upped
before it
        has to be implemented.

Well, funny you should mention that. I had the oposite thought. Maybe
the power control should be required for part 15. Realistically stations
- particularly base stations could transmit beacons at full power for
advertisments, but I think that most part 15 equipment should be
required to run MINIMUM power.... And if that is already in the Part 15
requirements it should be enforced.

I can see the 802.11b protocol extended with closed loop power control
(Like the Qualcomm IS95 cellphone) where the power is kept within that
required for communications. And I see that user terminals are what
needs to be power limited, not necessarily access points.

If the HSMM were to modify the protocol (and I don't think they should)
this is where I can see things being done for the benefit of all.

Darryl

---------
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

---
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## 145. [ss] HTML Messages....

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Thu, 12 Dec 2002 17:44:49 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110715-2002.12.12-01.35.15--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

PEOPLE,

When you are sending to this SIG please DO NOT SEND IN HTML. Many people
receive this and other SIG's via digest and cannot read HTML formatted
EMAIL's very well.

Thanks.

Darryl VK2TDS

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 146. [ss] RE: How can TAPR support SS development...Build the TAP R FS meter

From: Anthony.N.Martin@marconimobile.com
Date: Thu, 12 Dec 2002 09:33:29 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110720-2002.12.12-04.18.36--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> A bunch (not just 1 or 2) of the wireless vendors we're talking to say
 > 11g is dead on arrival.

Probably because it won't comply with ETS300-328 it's going
nowhere in europe.

The reason is the rather trivial "OFDM is not spread-spectrum".
11Mb/s 802.11 doesn't count as spread-spectrum in my book either.

802.11a at 5GHz has different requirements so it's a different matter.

M1FDE

---
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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 147. [ss] Re: Military application of 802.11b

From: Anthony.N.Martin@marconimobile.com
Date: Thu, 12 Dec 2002 11:52:06 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110729-2002.12.12-06.37.01--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

http://www.karlnet.net/

Thanks for that link. So they do the code for Lucent Orinocos...

How come Karlnet can get all their AP code in a 256k flash
when a linux-based AP just fits in a 1Mb flash?

There's another software supplier (Global Sun Tech?) that
does all the code for D-link, Linksys, & others. The APs are
based on ThreadX RTOS on ARM7.

If you think your WAP-11 or DWL-900 is secure, see this:
http://www.securitytracker.com/alerts/2002/Nov/1005531.html
(APs give out free WEP keys and admin password)

Ant

In't it amazing these days how few hardware companies do
their own software? In fact, few hardware companies do their
own hardware. People like Eumitcom & Broadcom  do it.

802.11 Reference designs served on a platter.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 148. [ss] Ham Radio marketing...

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Thu, 12 Dec 2002 23:05:42 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110730-2002.12.12-06.51.39--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

There were a few comments on the SIG today about marketing and Ham Radio
- and questions as to if Marketing has a place in Ham Radio. My view
here is that it definitely does. As wireless becomes more of a Buzz
Word, and 802.11 becomes more important, so does marketing.

There are three groups of people we need to convince about anything in
Ham Radio
        a) The general public
        b) Our family and friends
        c) Ourselves and other hams.

Often the only contact will be to part of one of these categories - and
this does not work. The TAPR sigs are a good example of marketing to
ourselves and other hams - but we could be a lot better at even that.

Anyway I have put a few of the ideas about marketing that I have into a
single powerpoint presentation... Please bear in mind that I am not a
marketer. I have a  Electrical Engineering, and I am also a tradesman,
having a certificate in Telecommunications Cabling. I am not in
advertising.It is all of 68k long, and can be viewed at the moment on
        http://radio-active.net.au/web/ham/HamPublicity.ppt

If people have comments on it can you email me direct.

Darryl


---------
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au



---
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## 149. [ss] Re: Ham Radio marketing...

From: Jochen Feldhaar <feldhaar@yahoo.com>
Date: Thu, 12 Dec 2002 04:29:33 -0800 (PST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110731-2002.12.12-07.14.43--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello Darryl,

now there, the native speakers should know even better
than me....
Marketing is the active process of forming your
market, and then to manage your way to success.

I think you want to call it Public Relations, where
the market is pre-existing and you just make yourself
known by providing appropriate information....


73 de
Jochen Feldhaar DH6FAZ
--- Darryl Smith <Darryl@radio-active.net.au> wrote:
> There were a few comments on the SIG today about
> marketing and Ham Radio
> - and questions as to if Marketing has a place in

> Ham Radio. My view
> here is that it definitely does. As wireless becomes
> more of a Buzz
> Word, and 802.11 becomes more important, so does
> marketing.
>
> There are three groups of people we need to convince
> about anything in
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>       a) The general public
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> Often the only contact will be to part of one of
> these categories - and
> this does not work. The TAPR sigs are a good example
> of marketing to
> ourselves and other hams - but we could be a lot
> better at even that.
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> Anyway I have put a few of the ideas about marketing
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> single powerpoint presentation... Please bear in
> mind that I am not a
> marketer. I have a  Electrical Engineering, and I am
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> at the moment on
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> If people have comments on it can you email me
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> Darryl
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>
> ---------
> Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565
> Australia
> Mobile Number 0412 929 634 [+61 4 12 929 634
> International]
> Darryl@radio-active.net.au | www.radio-active.net.au
>
>
>
>
> ---
> You are currently subscribed to ss as:
> feldhaar@yahoo.com
> To unsubscribe send a blank email to
> leave-ss-6751T@lists.tapr.org
>


_____
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http://mailplus.yahoo.com

---
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## 150. [ss] Re: Ham Radio marketing...

From: dubose@texas.net
Date: Thu, 12 Dec 2002 08:11:58 US/Central
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110740-2002.12.12-08.57.09--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

For those of us who do have MS, do you have this in another format?

Walt/K5YFW

> There were a few comments on the SIG today about marketing and Ham Radio
> - and questions as to if Marketing has a place in Ham Radio. My view
> here is that it definitely does. As wireless becomes more of a Buzz

> Word, and 802.11 becomes more important, so does marketing.
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> Often the only contact will be to part of one of these categories - and
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> If people have comments on it can you email me direct.
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> Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
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> Darryl@radio-active.net.au | www.radio-active.net.au
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>
>
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>



---
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## 151. [ss] Re: Ham Radio marketing...

From: Ron Hashiro <rhashiro@verizon.net>
Date: Thu, 12 Dec 2002 05:16:44 -1000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110748-2002.12.12-10.01.59--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

It's a start, but it begs certain questions.  Some of the answers were
alluded to in the presentation, but it's better if it's spelled out.

1)  In order to market and PR, who is our target audience
2)  What is the perception we want to influence?
     What do we want to change?
3)  What is the audience's want(s) or need(s)?
4)  What is our product or service to match that want or
      need?
5)  What is our message  (It's something you can say
      in 20 seconds to grab their attention, so they WANT
      to read or listen to more.)
6)  THEN, how do we go about systematically setting out
      to give that message and measure the results.

-------

Sorry for the long post, but you might find this interesting
and synergistic.

On that aspect, in Hawaii, Emergency Communications is
the vehicle for spreading that message about amateur radio.
Through systematic advances over 20 years, we have achieved
the following results:

a)  Placed hams in the following key leadership in town.
Communications officers at two Civil Defenses.  Trained
the entire operational staff at the local CD to be hams.
Have four hams on board at the state CD level.  Hams are
at the CEO level in hospitals (two of them), one as an

exec in another healthcare organization.  The Police Comm
Officer has regained his ham license, and the head of
our Fire Department Hazardous Materials unit is a ham.
The head of operations at Red Cross is a ham.
This is only a sampling of the community leadership
that the local amateur radio emergency comm unit has
spread and planted in town -- through radio classes
and by getting hams hired.

I work personally with the head engineer of the police
radio engineering, sharing thoughts and helping him
solve problems.  This also puts amateur radio in good
standing.

b)  This has opened the door to packet radio applications.
In fact, just prior to this e-mail, am furthering a proposal
to advance packet radio in several institutions in town.

c)  The amateur radio teams in town have done a superb
job advancing emergency comm in the last ten years.
We have amateur radio stations and operators in most
of the emergency management agencies.
CD, Police, Fire, Hospitals, Telephone, Power, Sewer,
Red Cross, just to name a few.  Twenty Police personnel
were trained in ham radio alone.  We just graduated
six fire personnel in amateur radio classes.

The key attention grabber was the job done in Hurricane Iniki where
amateur radio was the only link between Kauai and Oahu, and we
were getting messages delivered faster over packet than on voice.

http://home1.gte.net/rhashiro/am-radio/emcomm/iniki.htm

Year 2000 blew open a number of doors wide open.

http://home1.gte.net/rhashiro/am-radio/emcomm/fireworks-2000.htm

d)  There is the Amateur Radio Emegency Communications
Course offered through ARRL.  We have a number of
people who've passed the various levels.

So, Emergency Communications, and distributed wireless
e-mail communications would be a logical foot in the
door to leave a message message.

http://home1.gte.net/rhashiro/am-radio/emcomm/

Ron Hashiro, AH6RH
RACES, ARES, ARECC
Honolulu, HI

Jochen Feldhaar wrote:

>Hello Darryl,
>
>now there, the native speakers should know even better
>than me....
>Marketing is the active process of forming your
>market, and then to manage your way to success.
>
>I think you want to call it Public Relations, where
>the market is pre-existing and you just make yourself
>known by providing appropriate information....
>
>>There are three groups of people we need to convince
>>about anything in
>>Ham Radio
>>      a) The general public
>>      b) Our family and friends
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>>The TAPR sigs are a good example of marketing to
>>ourselves and other hams - but we could be a lot
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>>      http://radio-active.net.au/web/ham/HamPublicity.ppt
>>
>>If people have comments on it can you email me
>>direct.
>>
>>Darryl
>>

---
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## 152. [ss] RE: Part 97 <-> Part 15 at will?

From: "Hare,Ed, W1RFI" <w1rfi@arrl.org>
Date: Thu, 12 Dec 2002 10:33:03 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110749-2002.12.12-10.18.12--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Well, funny you should mention that. I had the oposite thought. Maybe
> the power control should be required for part 15. Realistically stations
> - particularly base stations could transmit beacons at full power for
> advertisments, but I think that most part 15 equipment should be
> required to run MINIMUM power.... And if that is already in the Part 15
> requirements it should be enforced.

This would, of course, solve part of our Part 97 problem, because that APC of Part 15 devices would still continue to function if they were amplified, so our Part 97 operation would then be controlled.

However, keep in mind that our Part 97 power-control requirement applies only above 1 watt. All 802.11 Part 15 operation will be at power levels of 1 watt or less, so if amateur radio were to imply that APC is needed below 1 watt, we may well shoot ourselves in the foot.

One has to be careful what one asks for... they might get it. :-)

73,
Ed Hare, W1RFI
> -----Original Message-----
> From: Darryl Smith [mailto:Darryl@radio-active.net.au]
> Sent: Thursday, December 12, 2002 1:39 AM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] RE: Part 97 <-> Part 15 at will?
>
>
>
> Steve Lampereur <kb9mwr@yahoo.com> commented
>       My next thought is maybe we should try get the automatic power
> wording
>       revised, instead or in addition to trying to get the limit upped
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>       has to be implemented.
>
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> Darryl
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> Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
> Mobile Number 0412 929 634 [+61 4 12 929 634 International]
> Darryl@radio-active.net.au | www.radio-active.net.au
>
>
>
> ---
> You are currently subscribed to ss as: W1RFI@ARRL.ORG
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>
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
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## 153. [ss] Re: Ham Radio marketing...

From: "Eric S. Johansson" <esj@harvee.billerica.ma.us>
Date: Thu, 12 Dec 2002 10:55:49 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110750-2002.12.12-10.40.58--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

dubose@texas.net wrote:
> For those of us who do have MS, do you have this in another format?

you can read it in open office without too much trouble.

---eric

---
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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 154. [ss] Re: Ham Radio marketing...

From: dubose@texas.net
Date: Thu, 12 Dec 2002 10:15:29 US/Central
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110752-2002.12.12-11.00.38--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> dubose@texas.net wrote:
> > For those of us who do have MS, do you have this in another format?
>
> you can read it in open office without too much trouble.
>
> ---eric

Eric,

I don't have open office and I read my E-Mail using a web mail service so it
only opens HTML.

Walt

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 155. [ss] RE: Part 97 <-> Part 15 at will?

From: "Hampton, Rickey L." <RHAMPTON@PARTNERS.ORG>
Date: Thu, 12 Dec 2002 11:16:32 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110753-2002.12.12-11.01.50--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Ed,

Pardon me for playing the devil's advocate, but would this really be so bad?
(The assumption is that APC would apply only to SS, not the other modes.)
As someone faced with the pending installation of several campuses of Part
15 stuff, it would make my job SO much easier on several fronts, and not all
of them are only for my good.

First, APC would limit the range of our system to only that necessary and lower the chances we'll interfere with others, including Part 97.  Second, it should lower the probability of intercept or intrusion into our network. If they can't find us, they can't break in.  Third, if some non-radio type in an adjacent building decides they need "MORE POWER," the worse thing that happens is they spend their money and time to get what they already have, and they don't create a local area jammer.  Couple APC with the active phased arrays now being advertised, and I don't need to worry about Hot Spot nearly as much, whether I'm dealing with Part 15 at work or Part 97 at home.

The ONLY downside I see right now is the cost, but that would be spread across all the users.  (I'm new to the list, but it seems "we" have been discussing taking Part 15 devices and adapting them to Part 97.)  Even if someone has the skills and inclination to homebrew a system, they could probably get the chipsets at a reasonable cost and incorporate them.

What have I overlooked?

Rick Hampton, WD8KEL
Wireless Communications Manager
Partners HealthCare Systems
One Constitution Center, 2nd Floor
Charlestown, MA  02129

Phone: 617-726-6633

> -----Original Message-----
> From: Hare,Ed, W1RFI [SMTP:w1rfi@arrl.org]
> Sent: Thursday, December 12, 2002 10:33 AM
> To:   TAPR Spread Spectrum Special Interest Group
> Subject:      [ss] RE: Part 97 <-> Part 15 at will?
>
> > Well, funny you should mention that. I had the oposite thought. Maybe
> > the power control should be required for part 15. Realistically stations
> > - particularly base stations could transmit beacons at full power for
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> However, keep in mind that our Part 97 power-control requirement applies
> only above 1 watt. All 802.11 Part 15 operation will be at power levels of
> 1 watt or less, so if amateur radio were to imply that APC is needed below
> 1 watt, we may well shoot ourselves in the foot.
>
> Ed Hare, W1RFI

---
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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 156. [ss] Re: Powerpoint Viewer

From: Ron Hashiro <rhashiro@verizon.net>
Date: Thu, 12 Dec 2002 06:29:07 -1000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110754-2002.12.12-11.14.22--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Eric S. Johansson wrote:

> dubose@texas.net wrote:
>
>> For those of us who do have MS, do you have this in another format?
>
>
> you can read it in open office without too much trouble.
>
> ---eric

Download the Powerpoint Viewer from Microsoft.

http://office.microsoft.com/downloads/2000/Ppview97.aspx

It works.  And it's the right price.  Free.

Ron H

---
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## 157. [ss] Re: Powerpoint Viewer

From: dubose@texas.net
Date: Thu, 12 Dec 2002 10:32:38 US/Central
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110758-2002.12.12-11.17.47--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Will the PowerPoint viewer run on the Sun mainframe?

Walt/K5YFW

> Eric S. Johansson wrote:
>
> > dubose@texas.net wrote:
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> >> For those of us who do have MS, do you have this in another format?
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> > you can read it in open office without too much trouble.
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> Ron H
>
>
>
> ---
> You are currently subscribed to ss as: dubose@texas.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
[Attachment: --\; text/plain; 0 bytes]

## 158. [ss] Re: TAPR in Europe.

From: Anthony.N.Martin@marconimobile.com
Date: Thu, 12 Dec 2002 17:52:52 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110760-2002.12.12-12.37.47--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Ah yes, NordLink, the infamous Amateur Radio group that stole Net/ROM and
> boldly denied their actions in public until TAPR pressed the issue.

> TAPR would be better served by NOT aligning with them.

Whatever that was it was well before my time and I
don't see the relevance of it.

I do not think bearing grudges or shutting people out serves
amateur radio's case very well at all.

I can think of at least one case where a packet group and
an amateur radio society aren't talking to each other and
packet activity has suffered. I still don't know why. I
shouldn't care why. Perhaps I should find out and try and
do something about it.

Making packet software and hardware designs readily available
serves the goals of TAPR whoever's doing it...

There are many new implementations of AX-25 from the ground up
nowadays so what's the issue?

If there's something annoying (if I understand the situation
correctly) it's that a number of manufacturers of TNC-2 clones
are largely using TAPR codebase and architecture and aren't

required to release modifications back to the community.

I'd like to see amateur radio IPR (hardware design, software...)
shared with some kind of GPL copyleft to prevent these kinds
of situation. In particular, witholding sourcecode or technical
documentation prevents experimentation which is contrary to the
goals of amateur radio. It may also prevent the free decoding
of signals that others have encoded, unacceptable for several
reasons.

ANt

---
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## 159. [ss] Re: Powerpoint Viewer <LYR27907-110758-2002.12.12-11.17.47--rwmcgwier#comcast.net@lists.tapr.org>

From: Robert McGwier <rwmcgwier@comcast.net>
Date: Thu, 12 Dec 2002 16:05:56 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110798-2002.12.12-15.51.13--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

No but Sun's StarOffice sure does.

Bob

-----Original Message-----
From: bounce-ss-27907@lists.tapr.org
[mailto:bounce-ss-27907@lists.tapr.org]On Behalf Of dubose@texas.net
Sent: Thursday, December 12, 2002 5:33 AM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] Re: Powerpoint Viewer

Will the PowerPoint viewer run on the Sun mainframe?

Walt/K5YFW

> Eric S. Johansson wrote:
>
> > dubose@texas.net wrote:
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> >> For those of us who do have MS, do you have this in another format?
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> > you can read it in open office without too much trouble.
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>
> Download the Powerpoint Viewer from Microsoft.
>
> http://office.microsoft.com/downloads/2000/Ppview97.aspx
>
> It works.  And it's the right price.  Free.
>
> Ron H
>
>
>
> ---
> You are currently subscribed to ss as: dubose@texas.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 160. [ss] RE: HTML Messages....

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Fri, 13 Dec 2002 08:30:53 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110801-2002.12.12-16.16.16--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> When you are sending to this SIG please DO NOT SEND IN HTML.
> Many people
> receive this and other SIG's via digest and cannot read HTML formatted
> EMAIL's very well.

Hmm, maybe this has a technical solution.  TAPR runs the list server,
doesn't it?  I've been playing around with an email proxy called
MessageWall.  Among many other features, it has the ability to strip HTML
from emails (or bounce them if there's no plain text in the message).  Been
running it before my own list server and it works a treat. :)  Messagewall
also has virus scanning capabilities built in.  Oh, and it's GPL'd (meaning
open source, freely distributable).

Just a thought if there's any admin over there watching, or anyone who can
pass this onto the admins. :)

---
Outgoing mail has been scanned for Viruses
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.427 / Virus Database: 240 - Release Date: 6/12/2002

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or privilege is waived or lost by any mistransmission. If you receive this
correspondence in error, please immediately delete it from your system and
notify the sender. You must not disclose, copy or rely on any part of this
correspondence if you are not the intended recipient.

Any opinions expressed in this message are those of the individual sender.

---
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## 161. [ss] Re: Ham Radio marketing...

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Fri, 13 Dec 2002 09:12:14 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110808-2002.12.12-16.57.46--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> For those of us who do have MS, do you have this in another format?

OpenOffice should be able to read it, and I'm also sure Microsoft have a
free Powerpoint viewer, if you're running some form of Windows.

---
Outgoing mail has been scanned for Viruses
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.427 / Virus Database: 240 - Release Date: 6/12/2002

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---
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## 162. [ss] Re: Ham Radio marketing...

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Fri, 13 Dec 2002 09:30:46 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110810-2002.12.12-17.16.02--lyris.ss#tapr.org@lists.tapr.org>

Rendered body type: text/plain

> 1)  In order to market and PR, who is our target audience

There are several target audiences:

Other hams - make them aware of what we're doing and get their interest.
Potential hams (who may not be aware we exist!)
General public (for whom, what we can do for them is the most important
thing)
Governments (since they generally manage the spectrum)
Industry (gotts get those fancy chips from somewhere!)

> 2)  What is the perception we want to influence?
>      What do we want to change?

Depends on which category of person we are dealing with, but most of the non
ham non industry groups seem to have this perception that ham radio is about
older gentlemen sitting up all night with a Morse key and (valve, of
course!) HF rig.  I've surprised a LOT of people when telling them about ham
satellites, APRS, VoIP (IRLP, Echolink and friends) and the digital voice
experimentation that's going on in parts of the world.  Considering that a
lot of the people I associate with are young, with a strong interest in
computers and networking, these areas are of a lot more interest than the
"traditional" modes.  Interestingly enough, the interest has gone full
circle with some when I've fired up on HF during a band opening.  That looks
a bit like black magic to people who are so used to man made devices being
used to get around the curve of the Earth. :)

As for those not interested in getting a licence?  Well, they still often
get to see that it's not a "waste of time" and maybe a tip on improving
their TV reception thrown in (some people actually have asked sensible
questions about TVI and poor signal quality that they've experienced). :-)
The 802.11b people now know the sort of people to turn to for answers on RF
issues.

> 3)  What is the audience's want(s) or need(s)?
> 4)  What is our product or service to match that want or
>       need?
> 5)  What is our message  (It's something you can say
>       in 20 seconds to grab their attention, so they WANT
>       to read or listen to more.)
> 6)  THEN, how do we go about systematically setting out
>       to give that message and measure the results.

All good questions that we need to address.
>
> -------
>
> Sorry for the long post, but you might find this interesting
> and synergistic.
>
> On that aspect, in Hawaii, Emergency Communications is
> the vehicle for spreading that message about amateur radio.
> Through systematic advances over 20 years, we have achieved
> the following results:

Emergency communications is so low profile in VK (Darryl will probably
agree) that you NEVER hear about it (at least in VK3), except for a small
note in the ham news services that WICEN were active in this disaster.  I
feel this needs to be given more publicity.  Similarly, WICEN itself doesn't
have a real high profile in the ham community.  I was a member at one stage
(just lapsed through no other reason), but other than the occasional WICEN
event mentioned in ham bulletins or the even rarer mention of a real
activatation, you hear nothing.

Anyway, my view is that promotion/marketing/PR is vital and it's an area I'm
interested in supporting (even though my background has NOTHING to do with
marketing).

---
Outgoing mail has been scanned for Viruses
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.427 / Virus Database: 240 - Release Date: 6/12/2002


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## 163. [ss] Re: Military application of 802.11b

From: Jeff King <jeff@aerodata.net>
Date: Thu, 12 Dec 2002 21:08:34 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110842-2002.12.12-20.54.15--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Stewart:

Saw the following on the BAWUG list. Interestingly enough, your using the
same companies equipment as used here (Breezecom changed their name to
Alvarion but I think they now do WiFI as well).

-Jeff

---

Wi-Fi Link Record Achieved In Sweden

The state-owned Swedish Space Corporation (SSC) announced the
establishment of a broadband wireless Wi-Fi link over a distance of 310
kilometers.

The link was made between a stratospheric weather balloon and a base
station on the ground in Esrange, Sweden using wireless equipment from
Alvarion (www.alvarion.com). Weather information and video was
transmitted over the link that used frequencies in the 2.4 GHz band in
which SSC is allowed to higher power levels. It comprised the longest
known Wi-Fi link ever established. An SSC spokesman declared it an
amazing technical achievement.

Regards
Geoff

--

On Wed, 11 Dec 2002 14:09:08 -0800 (PST), Stewart Teaze wrote:
>OK, imagine you have a military application for 802.11b, and you are
>not limited by Part 15 restrictions(application logistics will limit
>us to using a semi-remoted 3dBi gain omni at one site, but we can
>use a high-gain dish at the other site).  Given that we want to keep
>the RF device costs below $2000 per site - what would you folks
>recommend for hardware manufacturers/models, as far as higher power
>output/high quality solutions (given that we want to operate at a
>minimum of 4Mbps, and obtain the maximum possible range)?  We
>currently are using Breezecom equipment in another application here,
>but it has a limitation of 2Mbps top speed, which won't meet our
>minimum thruput requirements.
>
>- Stewart
>
>
>Do you Yahoo!?
>Yahoo! Mail Plus - Powerful. Affordable. Sign up now

---
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## 164. [ss] Re: TAPR in Europe.

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Fri, 13 Dec 2002 17:34:58 +1100

To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110875-2002.12.13-01.25.20--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

G'Day

Anthony.N.Martin@marconimobile.com commented

> If there's something annoying (if I understand the situation
> correctly) it's that a number of manufacturers of TNC-2 clones
> are largely using TAPR codebase and architecture and aren't
> required to release modifications back to the community.

TAPR gets returns for the community in a number of ways. The way it works is to get a device out there, then get it commercialised, and move on. If you decide to buy a set of back issues of the PSR magazine you would find the story of the TNC's..

TAPR originally licensed the TNC-1 for $500 just to get it out there... That worked. Lots of the TNC-1 units were sold.

The TNC2 was then designed and licensed for $5000 + $5/unit dropping to $3/unit and then to zero. This was later changed to $500 + $5/unit for five years. This has allowed TAPR to put money back into the ham community. I have no idea how much TAPR has given to AMSAT in total, but in the late 80's it had given over $20,000 to them.

These companies are now competing for our $$$ and for the commercial dollar, and TAPR has moved on. The organisation has no need for selling TNC's any more since they are so available. The HAM community has got more back from the manufacturers than if we had forced them to release their mods back to the community.

If all the manufacturers dropped out of the markert there might be a need, but that has not happened and it does not look likely. From memory the TNC-2 code was licensed from a programmer who wrote the code. I don't believe that TAPR has the right to distribute it - it is not ours to distribute.

Where possible I support all the documentation for a TAPR being totally public - either at the time, or once TAPR stops producing whatever it it. Spread Spectrum is an area that all this is not possible at times thanks to export restrictions on spreading codes and the like.

I hope this helps people to know where TAPR fits in...

Darryl

---
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## 165. [ss] Re: Military application of 802.11b - long links

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Fri, 13 Dec 2002 19:04:32 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110877-2002.12.13-02.55.37--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>The state-owned Swedish Space Corporation (SSC) announced the
>establishment of a broadband wireless Wi-Fi link over a distance of 310
kilometers.

This is VERY interesting, and I wonder how they did it. They are certainly bending the WiFi spec, if not breaking it.
A while ago I documented some of the limitations on 802.11 on http://www.radio-active.net.au/web/80211/distance.html... Lets have a look at a 310 km wireless link.

I believe that they are unable to get a throughput on this link more than about 5 mbit bits/sec without overhead. And that is assuming that data rate of the link is fast. Let me explain.

1. We are talking about a data link here where EVERY frame must be acknowledged before the next one is sent. Hams have worked out that this may not be the best idea in the world. Think AX.25 with out another packet being sent before the present one is ackedged.

2. The path... 310KM. Lets assume it really is 300KM. Makes the maths easier. 300 km = 1 mSec ONE WAY. Therefore a two way path delay is 2 mSec.

3. The maximum size of a packet is 2304 bytes (Oreilly 802.11 Wireless Networks Page 42 - http://www.amazon.com/exec/obidos/ASIN/0596001835/radioactivene-20)

4. The TX time assuming perfection is (2304 * 8/11000000) = 1.675 mSec. RX time will be the same

5. Assuming no retries, from the perspective of the Transmitter... It starts transmitting at T=0 and transmits for 1.675 mSec.

6. Thanks to the time delay (Damn Einstein) the packet starts to be received at T=1 mSec, and finishes receiving at T=2.675

7. The receiver sends back an OK, and it arrives back at T=3.675 mSec

8. This makes a maximum of 272 packets/second meaning 272 * 2304 * 8 = 5 mBit/sec Max throughput

9. But if we run TCP so that we are sure of getting the data off, that requires an ACK at IP level, with a lot of negotiation in order to change direction. I would guess that adding TCP ack would add a minimum 4-6 mSec, making the throughput much lower.

10. If it is 6 mSec, that would mean 9.675 mSec/packet or 103 packets/second or your 11 mBit link has just become a 2 mBit link.

Point 9 is the interesting one... This link breaks all sorts of rules. The normal slottime is set at 20 uSec commonly, and the timer before sending a RETRY request is set at somewhere between 5 and 20 uSec as standard. For this link to work at maximum, the timers need to be hand configured.

Conclusion. Are these guys completely nuts. There must be a better way to do this than a WIFI link. WiFi is not designed for this. You are looking at 10% useful bitrate used. Another Link Level protocol would work better. AX25 running with 2304 byte payloads and a 11 mbit/sec modem would work better...

Darryl

---------
Darryl Smith, VK2TDS  POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

---
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## 166. [ss] Re: ss digest: December 12, 2002

From: "John Champa" <k8ocl@hotmail.com>
Date: Fri, 13 Dec 2002 07:22:45 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110884-2002.12.13-07.08.27--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Forecast...

When 802.11g products are released in 1Q03, the price for 802.11b equipment should fall very quickly (it's already fairly cheap) and create a windfall for Hams just getting into the HSMM mode.  This is my guess, anyway (HI) Timing is important!

Vy 73,
John - K8OCL
ARRL HSMM WG

_____
Help STOP SPAM with the new MSN 8 and get 2 months FREE*
http://join.msn.com/?page=features/junkmail

---
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## 167. [ss] Re: Military application of 802.11b - long links

From: Gerry Creager <gerry.creager@tamu.edu>
Date: Fri, 13 Dec 2002 07:03:17 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110889-2002.12.13-07.50.15--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

A nice analysis but you miss one point:  802.11b is adaptive.  Thus it
decreases throughput and increases window times with increased noise or
diminished SNR.  Or when told to.  Thus, coming down to 2Mbps isn't
breaking the spec at all.  It may be a design feature.

gerry

Darryl Smith wrote:
>>The state-owned Swedish Space Corporation (SSC) announced the
>>establishment of a broadband wireless Wi-Fi link over a distance of 310
>
> kilometers.
>
> This is VERY interesting, and I wonder how they did it. They are
> certainly bending the WiFi spec, if not breaking it.
> A while ago I documented some of the limitations on 802.11 on
> http://www.radio-active.net.au/web/80211/distance.html... Lets have a
> look at a 310 km wireless link.
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> data rate of the link is fast. Let me explain.
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> acknowledged before the next one is sent. Hams have worked out that this
> may not be the best idea in the world. Think AX.25 with out another
> packet being sent before the present one is ackedged.
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> 2. The path... 310KM. Lets assume it really is 300KM. Makes the maths
> easier. 300 km = 1 mSec ONE WAY. Therefore a two way path delay is 2
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>
> 3. The maximum size of a packet is 2304 bytes (Oreilly 802.11 Wireless
> Networks Page 42 -
> http://www.amazon.com/exec/obidos/ASIN/0596001835/radioactivene-20)
>
> 4. The TX time assuming perfection is (2304 * 8/11000000) = 1.675 mSec.
> RX time will be the same
>
> 5. Assuming no retries, from the perspective of the Transmitter... It
> starts transmitting at T=0 and transmits for 1.675 mSec.
>
> 6. Thanks to the time delay (Damn Einstein) the packet starts to be
> received at T=1 mSec, and finishes receiving at T=2.675
>
> 7. The receiver sends back an OK, and it arrives back at T=3.675 mSec
>
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> mBit/sec Max throughput
>
> 9. But if we run TCP so that we are sure of getting the data off, that
> requires an ACK at IP level, with a lot of negotiation in order to
> change direction. I would guess that adding TCP ack would add a minimum
> 4-6 mSec, making the throughput much lower.
>
> 10. If it is 6 mSec, that would mean 9.675 mSec/packet or 103
> packets/second or your 11 mBit link has just become a 2 mBit link.
>
> Point 9 is the interesting one... This link breaks all sorts of rules.
> The normal slottime is set at 20 uSec commonly, and the timer before
> sending a RETRY request is set at somewhere between 5 and 20 uSec as

> standard. For this link to work at maximum, the timers need to be hand
> configured.
>
> Conclusion. Are these guys completely nuts. There must be a better way
> to do this than a WIFI link. WiFi is not designed for this. You are
> looking at 10% useful bitrate used. Another Link Level protocol would
> work better. AX25 running with 2304 byte payloads and a 11 mbit/sec
> modem would work better...
>
> Darryl
>
>
>
>
>
> ---------
> Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
> Mobile Number 0412 929 634 [+61 4 12 929 634 International]
> Darryl@radio-active.net.au | www.radio-active.net.au
>
>
>
> ---
> You are currently subscribed to ss as: gerry.creager@tamu.edu
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org


--
Gerry Creager -- gerry.creager@tamu.edu
Network Engineering -- AATLT, Texas A&M University
Office: 979.458.4020  FAX: 979.847.8578
Cell: 979.229.5301    Pager: 979.228.0173



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## 168. [ss] Re: Military application of 802.11b - long links

From: wchast@utilpart.com
Date: Fri, 13 Dec 2002 08:50:19 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-110893-2002.12.13-08.37.16--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>AX25 running with 2304 byte payloads and a 11 mbit/sec
> modem would work better...
>
A couple of LINUX boxes should let you test that theory
out. Be nice to see what the numbers come up to? A delay
line in between the two Wi-Fi points and you have your
path. Be interesting to see the numbers


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**********************************************************************



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## 169. [ss] Subject: Re: Military application of 802.11b - long links

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Sat, 14 Dec 2002 16:39:15 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>

Message-ID: <LYR6751-110984-2002.12.14-00.30.41--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

G'Day...

From: Gerry Creager <gerry.creager@tamu.edu>
>A nice analysis but you miss one point:  802.11b is adaptive.  Thus it
>decreases throughput and increases window times with increased noise or

>diminished SNR.  Or when told to.  Thus, coming down to 2Mbps isn't
>breaking the spec at all.  It may be a design feature.

I am still coming to terms with the internals. I did not realise that
the performance of the link was that adaptive. The documentation I have
been reading states that the 'contention window', which is I assume the
period that a retry can can be trensmitted in, is reset on each
successful packet getting through. So my reading of the protocol
operation is

        Transmits the initial packet
        Waits for DIFS period - which from what I can gather is normally
about 20 uSec
        waits for 0-31 slots and retransmits the packet [slots are 10
uSec].
        The other station recieves the un-retransmitted packet, and
sends an ack
        Waits for DIFS periods
        waits for 0-31 slots and retransmits the ack

Which makes this worse than I thought. I would love to be proved wrong,
but from my reading the protocol is adaptive, but assumes that stations
are close in. It certainly does not attempt to work out the best way to
get packets in by scheduling with some type of space/time algorithm.

So if this is correct we are now down to worse than 1 mb/sec with an
11mbit/sec modulation.

Which leads me to another conclusion... If we want to use this for long
links we need to work out what variables to change for maximum
throughput, and make them more dynamic.

Darryl

---------
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

---
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## 170. [ss] Re: Subject: Re: Military application of 802.11b - long links

From: Jeff King <jeff@aerodata.net>
Date: Sat, 14 Dec 2002 12:11:44 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111023-2002.12.14-11.57.11--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

In some of the long links in question, KarlNet firmware was used, which
modified parameters or totally changed things.
--
Jeff King, jeff@aerodata.net on 12/14/2002

On Sat, 14 Dec 2002 16:39:15 +1100, Darryl Smith wrote:
>G'Day...
>
>From: Gerry Creager <gerry.creager@tamu.edu>
>>A nice analysis but you miss one point:  802.11b is adaptive.  Thus
>>it
>>decreases throughput and increases window times with increased
>>noise or
>
>>diminished SNR.  Or when told to.  Thus, coming down to 2Mbps isn't
>>breaking the spec at all.  It may be a design feature.

>
>I am still coming to terms with the internals. I did not realise that
>the performance of the link was that adaptive. The documentation I
>have
>been reading states that the 'contention window', which is I assume
>the
>period that a retry can can be trensmitted in, is reset on each
>successful packet getting through. So my reading of the protocol
>operation is
>
>    Transmits the initial packet
>    Waits for DIFS period - which from what I can gather is normally
>about 20 uSec
>    waits for 0-31 slots and retransmits the packet [slots are 10
>uSec].
>    The other station recieves the un-retransmitted packet, and
>sends an ack
>    Waits for DIFS periods
>    waits for 0-31 slots and retransmits the ack
>
>Which makes this worse than I thought. I would love to be proved
>wrong,
>but from my reading the protocol is adaptive, but assumes that
>stations
>are close in. It certainly does not attempt to work out the best way
>to
>get packets in by scheduling with some type of space/time algorithm.
>
>So if this is correct we are now down to worse than 1 mb/sec with an
>11mbit/sec modulation.
>
>Which leads me to another conclusion... If we want to use this for
>long
>links we need to work out what variables to change for maximum
>throughput, and make them more dynamic.
>
>Darryl
>
>
>
>---------
>Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
>Mobile Number 0412 929 634 [+61 4 12 929 634 International]
>Darryl@radio-active.net.au | www.radio-active.net.au
>
>
>
>---
>You are currently subscribed to ss as: jeff@aerodata.net
>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
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## 171. [ss] Pansat

From: Frosty6981@aol.com
Date: Sat, 14 Dec 2002 15:25:09 EST
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111034-2002.12.14-15.10.30--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have seen that Pansat (PO-34) is a spread spectrum sattlite.  What do I
need to use it?  Has anyone had any luck with it?

73, Reid KCØIDI

## 172. [ss] California Amplifier Yagi?

From: "Marcelo Puhl" <mark@cpovo.net>
Date: Sat, 14 Dec 2002 18:35:47 -0200
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111035-2002.12.14-15.20.48--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,

I'm trying to use the California Amplifier MMDS Yagi antenna on 2.4 GHz
but it is not working. Even on a 200m direct LOS link with low loss Heliax
cable. The hardware is the good old Proxim Symphony cards and bridge, that
runs fine at short distance with the original antennas.

Is there any hint to make those MMDS Yagi antennas work on 2.4 GHz?

Thanks.
Marcelo - PY3SS

---
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## 173. [ss] Re: California Amplifier Yagi?

From: Brett Glass <brett@lariat.org>
Date: Sat, 14 Dec 2002 13:39:47 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111037-2002.12.14-15.25.10--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 01:35 PM 12/14/2002, Marcelo Puhl wrote:

>Hi,
>
>I'm trying to use the California Amplifier MMDS Yagi antenna on 2.4 GHz

Why? MMDS isn't 2.4 GHz.

--Brett

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 174. [ss] Re: Military application of 802.11b

From: Brett Glass <brett@lariat.org>
Date: Sat, 14 Dec 2002 13:43:54 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111038-2002.12.14-15.29.21--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 03:09 PM 12/11/2002, Stewart Teaze wrote:

>OK, imagine you have a military application for 802.11b, and you are not limited by Part 15
restrictions

Try HyperLink Technologies (hyperlinktech.com). They offer amplifiers which, they claim, can output high
 power for military/non-US applications. It'll be a custom job, though, so I don't know what they'll
charge.

--Brett Glass

---
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## 175. [ss] Re: California Amplifier Yagi?

From: "Marcelo Puhl" <mark@cpovo.net>
Date: Sat, 14 Dec 2002 18:48:13 -0200
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111039-2002.12.14-15.33.15--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 14 Dec 2002 at 13:39, Brett Glass wrote:

> >I'm trying to use the California Amplifier MMDS Yagi antenna on 2.4 GHz
> >
> Why? MMDS isn't 2.4 GHz.
> >
> --Brett
> >

I found them referenced on the page:

http://www.qsl.net/n9zia/wireless/page04.html

And we get those Yagis for free here...  ;-)

Marcelo - PY3SS

---
You are currently subscribed to ss as: lyris.ss@tapr.org
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## 176. [ss] Re: California Amplifier Yagi?

From: Brett Glass <brett@lariat.org>
Date: Sat, 14 Dec 2002 15:04:52 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111054-2002.12.14-16.50.18--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 01:48 PM 12/14/2002, Marcelo Puhl wrote:

>I found them referenced on the page:
>
>http://www.qsl.net/n9zia/wireless/page04.html

Reread that page carefully. It says that MMDS *dish* antennas are
frequency-insensitive enough to work with 802.11b. Yagis are
much more frequency-sensitive.

>And we get those Yagis for free here...  ;-)

Alas, for your application it appears that you may be getting what
you pay for.

--Brett

---
You are currently subscribed to ss as: lyris.ss@tapr.org
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## 177. [ss] Re: California Amplifier Yagi?

From: wchast@utilpart.com
Date: Sat, 14 Dec 2002 19:21:44 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111075-2002.12.14-19.08.49--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Maybe it is in his part of the world, look at his callsign.

> -----Original Message-----
> From: Brett Glass [mailto:brett@lariat.org]
> Sent: Saturday, December 14, 2002 03:40 PM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: California Amplifier Yagi?
>
>
> At 01:35 PM 12/14/2002, Marcelo Puhl wrote:
>
> >Hi,
> >
> >I'm trying to use the California Amplifier MMDS Yagi antenna
> on 2.4 GHz
>
> Why? MMDS isn't 2.4 GHz.
>
> --Brett
>
>
> ---
> You are currently subscribed to ss as: wchast@utilpart.com
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>

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## 178. [ss] Re: California Amplifier Yagi?

From: Bob Lorenzini <hwm@newportharbornet.com>
Date: Sat, 14 Dec 2002 16:45:56 -0800 (PST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111084-2002.12.14-19.31.07--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Sat, 14 Dec 2002, Brett Glass wrote:

> At 01:48 PM 12/14/2002, Marcelo Puhl wrote:
>
> >I found them referenced on the page:
> >
> >http://www.qsl.net/n9zia/wireless/page04.html
>
> Reread that page carefully. It says that MMDS *dish* antennas are
> frequency-insensitive enough to work with 802.11b. Yagis are
> much more frequency-sensitive.
>
> >And we get those Yagis for free here...  ;-)
>
> Alas, for your application it appears that you may be getting what
> you pay for.

You will be hard pressed to find a higher gain ant for 802.11 than
the MMDS castoffs. If I remember correctly you need to change the
feed and aiming is critical. When I get to the office I will try
to find the link for modifying.

Bob - wd6dod

---
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## 179. [ss] Magazine Roundup - Elektor Electronics - October 2002

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Sun, 15 Dec 2002 15:57:13 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111088-2002.12.14-23.47.53--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Here in Oz October Elector has just hit the shelves. Articles and Kits
include (www.elektor-electronics.co.uk)

        AT90S8535 Programmer
        Digital RF wattmeter based on a 16F876
(http://www.webx.dk/oz2cpu/radios/miliwatt.htm)
        16F84 Motorcycle Theft Alarm
        Information on the OBD-2 Car network port
        Sound Pressure Level Meter
        Accoustic VoltMeter
        Electronic Fuse
        USB Driver Programming

November Electronics World (formerly and Wireless world)

        WIDE Digital IO from the USB port
        TDA7000 Signal Strength Meter
        PIR Enhancement

PIC in service programming
RF Autotransformers line devices modelled in spice
Capacitor Sound - Distortion added by capacitors in a circuit

If people find this useful, let me know, and I will continue to publish
this when I get the magazines

Darryl

---
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

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## 180. [ss] Re: Magazine Roundup - Elektor Electronics - October 2002

From: "Pinfold" <pinfold@xtra.co.nz>
Date: Sun, 15 Dec 2002 19:26:48 +1300
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111114-2002.12.15-01.14.17--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Daryl glad to see some one else gets stuck into the good mags other than
the usual boring one our friends up top may have trouble getting some of the
european ones  cheers Mike ZL1BTB
----- Original Message -----
From: Darryl Smith <Darryl@radio-active.net.au>
To: TAPR Spread Spectrum Special Interest Group <ss@lists.tapr.org>
Sent: Sunday, December 15, 2002 5:57 PM
Subject: [ss] Magazine Roundup - Elektor Electronics - October 2002

> Here in Oz October Elector has just hit the shelves. Articles and Kits
> include (www.elektor-electronics.co.uk)
>
> AT90S8535 Programmer
> Digital RF wattmeter based on a 16F876
> (http://www.webx.dk/oz2cpu/radios/miliwatt.htm)
> 16F84 Motorcycle Theft Alarm
> Information on the OBD-2 Car network port
> Sound Pressure Level Meter
> Accoustic VoltMeter
> Electronic Fuse
> USB Driver Programming
>
> November Electronics World (formerly and Wireless world)
>
> WIDE Digital IO from the USB port
> TDA7000 Signal Strength Meter
> PIR Enhancement
> PIC in service programming
> RF Autotransformers line devices modelled in spice
> Capacitor Sound - Distortion added by capacitors in a circuit
>
> If people find this useful, let me know, and I will continue to publish
> this when I get the magazines
>
> Darryl
>
> ---------
> Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
> Mobile Number 0412 929 634 [+61 4 12 929 634 International]
> Darryl@radio-active.net.au | www.radio-active.net.au
>
>
>
> ---
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## 181. [ss] Re: California Amplifier Yagi?

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Sun, 15 Dec 2002 13:25:31 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111182-2002.12.15-14.10.51--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The Yagi's have a downconverter attached directly to them.  So you need to
solder a RF connector or your coax directly after removing the
downconverter.  The work okay afterwards.

---
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## 182. [ss] Re: California Amplifier Yagi?

From: "Marcelo Puhl" <mark@cpovo.net>
Date: Sun, 15 Dec 2002 17:51:07 -0200
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111184-2002.12.15-14.36.21--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 15 Dec 2002 at 13:25, Steve Lampereur wrote:

> The Yagi's have a downconverter attached directly to them.  So you need to
> solder a RF connector or your coax directly after removing the
> downconverter.  The work okay afterwards.
>

I did that. Removed the downconverter and the original short piece of cable.
Installed a new one with a N-female on its end. No luck.
The problem is I don't have any test equipment to evaluate the antenna.
Just trying the link to see if it works :(

Have you used this antenna?

Thanks for the info.

Mark - PY3SS

---
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## 183. [ss] Re: ss digest: December 12, 2002

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Mon, 16 Dec 2002 08:31:54 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111187-2002.12.15-16.17.24--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> When 802.11g products are released in 1Q03, the price for
> 802.11b equipment
> should fall very quickly (it's already fairly cheap) and
> create a windfall
> for Hams just getting into the HSMM mode.  This is my guess,
> anyway (HI)
> Timing is important!

802.11b equipment is already quite cheap over here.  You can buy PCMCIA
cards for around A$100 retail and access points for under A$300.  The
wireless groups are good "spotters" for such retail bargains.  In the US, I
believe things are (at least in $ terms because of the exchange rate) much
cheaper again.

---
Outgoing mail has been scanned for Viruses
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.427 / Virus Database: 240 - Release Date: 6/12/2002

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## 184. [ss] Re: California Amplifier Yagi?

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Mon, 16 Dec 2002 13:40:38 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111299-2002.12.16-14.26.00--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Same problem here, no real way to test it.  We stuck with the parabolic
dishes, we unloaded a few of the Yagi's to someone else, I never really
heard if they worked out.  I know the Corner reflectors did & obviously the
dishes.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
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## 185. [ss] Re: California Amplifier Yagi?

From: "Jason A. Beens" <jbeens@sensetechnologies.com>
Date: Mon, 16 Dec 2002 13:49:00 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111300-2002.12.16-14.29.34--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

i have a VNA that will go to 3 GHz... i would be happy to make a measurement of S11 on the antenna port and publish it...
can anyone spare an antenna?
the VNA is in calibration right now, but it will be back before the end of hte year.
Jason
KB0CDN

-----Original Message-----
From: Steve Lampereur [mailto:kb9mwr@yahoo.com]
Sent: Monday, December 16, 2002 1:41 PM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] Re: California Amplifier Yagi?

Same problem here, no real way to test it.  We stuck with the parabolic
dishes, we unloaded a few of the Yagi's to someone else, I never really
heard if they worked out.  I know the Corner reflectors did & obviously the
dishes.

---
You are currently subscribed to ss as: jbeens@sensetechnologies.com
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

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Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.426 / Virus Database: 239 - Release Date: 12/2/2002

---
Outgoing mail is certified Virus Free.
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.426 / Virus Database: 239 - Release Date: 12/2/2002

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## 186. [ss] [Fwd: [nycwireless] Pebble Linux Distro release]

From: "Eric S. Johansson" <esj@harvee.billerica.ma.us>
Date: Mon, 16 Dec 2002 19:39:33 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111316-2002.12.16-19.24.57--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

the part 15 world is moving ahead with hardware, software and network.

--- eric

-------- Original Message --------
Subject: [nycwireless] Pebble Linux Distro release
Date: Mon, 16 Dec 2002 13:12:49 -0800
From: Todd Boyle <tboyle@rosehill.net>
To: dbs@philodox.com

quoted from
http://lists.nycwireless.net/pipermail/nycwireless/2002q4/003938.html
download/notes are at http://www.nycwireless.net/pebble/

[nycwireless] Pebble Linux Distro release
Terry Schmidt terry at nycwireless.net
Sun, 15 Dec 2002 11:01:43 -0500

I've made a smallish (~40mb) Linux distro with NoCat, DJBDNS, HostAP,
Debian, and more. It works on the Soekris net4501, Soekris net4521,
Stylistic 1000, and more. One of it's biggest benefit is that it is a
read-only system, so you can unplug and reboot as much as you want
without fearing data loss. Comments, bug reports, requests, etc, are
welcome. --Terry

--X1bOJ3K7DJ5YkBrT
Content-Type: text/plain; charset=us-ascii
Content-Disposition: attachment; filename="pebble.README.1"

This is a somewhat minimal (more than 16 megs, less than 400 megs) Debian
stripped distro aimed for use in wireless embeded devices. It's biggest
advantage is that it mounts read-only. You don't have to worry as much
about wearing down the compact flash, and you don't have to worry about
doing proper shutdowns. Unplug and plug in as much as you want.

What it has installed:
          Based on Debian GNU/Linux 3.0 (Woody)
          Linux Kernel 2.4.19
          HostAP - Stable Version 10-12-02 - PCMCIA and PCI
          bridge-tools
          djbdns caching dns server
          elvis (tiny vi)
          gnupg
          iptables 1.2.6a
          lynx
          lilo
          NoCatAuth, running as non-root, post 0.81 nightly
          ntpdate
          openSSH server 3.4p1
          openSSL 0.9.6 patched
          pcmcia-cs (kernel module pcmcia)
          Perl 5.6.1
          ppp
          pppoe
          rsync
          tcpdump
          udhcpc - tiny dhcp client
          udhcpd - tiny dhcp server
          zebra 0.92a-5 (BGP, OSPF Routing Daemon)

What has it been tested to run on:
          Soekris Net 4501 (PCI version)
          Soekris Net 4521 (Dual PCMCIA Version)
          Stylistic 1000 PCMCIA
          Thinkpad T23 with mini-pci prism2 and Intel 10/100.

[FAQ snipped]

---
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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 187. [ss] San Diego wireless net installs 72-mile, 2.4-GHz link

From: "Steven Bible" <n7hpr@tapr.org>
Date: Mon, 16 Dec 2002 18:47:02 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111319-2002.12.16-20.32.29--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

These series of articles was posted to the AMSAT-BB list.

I think you'll find these interesting from a number angles.  One, ignorance
of the FCC rules and regulations, and two, the extent of experimentation in
IEEE 802.11b (can you say "reinventing the wheel?) that is being funded by
the US Government (left hand this is right hand, over!).

First read...
http://www.computerworld.com/mobiletopics/mobile/story/0,10801,75830,00.html

Then...
http://www.computerworld.com/mobiletopics/mobile/story/0,10801,76118,00.html


- Steve, N7HPR
  (n7hpr@tapr.org)



---
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## 188. [ss] more part 15 devices ?

From: "Stephen Nichols" <sgnichols@mindspring.com>
Date: Mon, 16 Dec 2002 19:16:04 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111323-2002.12.16-21.01.15--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Posted on the gnu-radio list today...



>Excerpt from
http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-229400A1.pdf
>See also http://www.fcc.gov/oet for statements of commissioners.
>
>
>
>
>              FCC BEGINS INQUIRY REGARDING ADDITIONAL
>                  SPECTRUM FOR UNLICENSED DEVICES
>
>
> As part of the ongoing effort to promote efficient use of spectrum,
> the FCC today asked for public comment on the possibility of
> permitting unlicensed transmitters to operate in additional frequency
> bands. Such changes could allow the development of new and innovative
> types of unlicensed devices. This inquiry examines new and creative
> ways to utilize the spectrum resource more efficiently by considering
> new spectral frontiers for unlicensed use.
>
> In a Notice of Inquiry approved today, the Commission stated that the
> current rules for unlicensed transmitters have been a tremendous
> success. A wide variety of devices have been developed and introduced
> under those rules for consumer and business use, including cordless
> telephones, home security systems, electronic toys, anti-pilfering and
> inventory control systems, and computer wireless local area
> networks. The success of those rules shows that there could be
> significant benefits to the economy, businesses and consumers in
> making additional spectrum available for unlicensed
> transmitters. Unlicensed transmitters may be operated under the
> provisions of Part 15 of the Commission s Rules. Part 15 transmitters
> generally operate on frequencies shared with authorized services at
> relatively low power, levels and must operate on a non-interference
> basis.
>
> The Notice seeks comments on whether unlicensed operations should be
> permitted in additional frequency bands. Specifically, it seeks

> comments on the feasibility of allowing unlicensed devices to operate
> in the TV broadcast spectrum and locations and times when spectrum is
> not being used. It also seeks comment on the feasibility of permitting
> unlicensed devices to operate in other bands, such as the 3650-3700
> MHz band, at power levels higher than other unlicensed transmitters
> with only the minimal technical requirements necessary to prevent
> interference to licensed services.

---
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## 189. [ss] RE: HTML Messages....

From: Anthony.N.Martin@marconimobile.com
Date: Tue, 17 Dec 2002 11:23:09 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111359-2002.12.17-06.08.17--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Hmm, maybe this has a technical solution.  TAPR runs the list server,
> doesn't it?  I've been playing around with an email proxy called
> MessageWall.  Among many other features, it has the ability to strip HTML
> from emails

If you do this, make sure it correctly adjusts the headers to match.

I've had problems with messages from listservs that strip HTML
and yet leave "content-type" as multipart/mime  etc.

Lotus Notes vehemently objects to this error. Consequence you
don't get to see the post.

Ant

---
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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 190. [ss] Re: Powerpoint Viewer

From: Anthony.N.Martin@marconimobile.com
Date: Tue, 17 Dec 2002 11:30:21 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111360-2002.12.17-06.15.23--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Do you want me to convert the .ppt to a .pdf file - I did that for
someone 2 days ago. The result was 50% smaller too.

It's as simple as printing it (in powerpoint or powerpoint viewer
or your fave Unix office package) to a PDF writer device.

It has the convenient side-effect of stripping those silly
animations.

Ant

---
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## 191. [ss] Re: Military application of 802.11b - long links

From: Anthony.N.Martin@marconimobile.com
Date: Tue, 17 Dec 2002 18:29:16 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111394-2002.12.17-13.14.23--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> 9. But if we run TCP so that we are sure of getting the data off, that
> requires an ACK at IP level, with a lot of negotiation in order to
> change direction. I would guess that adding TCP ack would add a minimum
> 4-6 mSec, making the throughput much lower.

Multiple packets may be sent before acks are received in TCP.
It doesn't wait for individual packets to be acked. Packets
are acked by number and the quantity that can be "in transit"
depends on the window size. TCP acks will consume some time on
the link. They are short packets but framing overhead is high.
It's a pity 802.11 can't send multiple short IP packets in one
burst with one sync preamble and ack overhead. Another failing
of 802.11 / AX.25 ... but 802.11 does provide some help.

"negotiation" isn't required to change direction; Turnround time
for an 802.11 ack is small; turnround time for TCP-ack will be
slightly higher but not much. Lots of contention may be required!

What will happen is that one end will be firing traffic packets
while the other end is trying to get TCP-acks back, so both ends
contend at each packet for the right to transmit. With long link
delays, that contention phase will "fight" for a long time before
it's resolved who won.

If the stations opt to use the "ack+data" packet then the
contention would be avoided, and turnrounds minimised. The
TCP-ack sneaks in with the 802.11 ack, which is in in turn
acked with the next traffic packet. CF-time is continually
extended and no contention occurs. The 802.11 acks almost
vanish from the link. (hey - AX.25 sux). Use of the full
gamut of 802.11 packet types isn't compulsory; a working
implementation can be built without. Performance would
therefore be implementation-dependent.

This is one reason I'd like people to post packet-sniffer
dumps on the net (naming the firmware/software involved) so
we can see which implementations are good and which aren't.
Implementations that make maximum use of bandwidth-saving
protocol elements being "good".

Ant

---
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## 192. [ss] Re: San Diego wireless net installs 72-mile, 2.4-GHz link

From: Anthony.N.Martin@marconimobile.com
Date: Tue, 17 Dec 2002 19:01:09 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111395-2002.12.17-13.46.13--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

<cut stuff about ex- 72-mile link>
I can't believe the date on this post - server's not borken...

Hey Mr. Steve Bible, we did that one to death weeks ago.
Were you not awake... read the archives before posting.

Let's not restart the FCC vs. Ham vs. licence-free war.
We've poured many megabits over that fire already.

It was reported the link has now been taken down.

I'm quite conscious I'm flaming a TAPR director...
You gotta love 'em, haven't you!
Welcome Steve, I'm sure you're a nice chap. Nice
to see Steve and Daryl involved in the lists. I commend
Daryl for communicating effectively with members.
And potential members. I will join, honest guv!

Ant M1FDE

> (left hand this is right hand, over!)

. . . . <no reply>

---
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## 193. [ss] Re: TAPR in Europe.

From: Anthony.N.Martin@marconimobile.com
Date: Tue, 17 Dec 2002 19:38:10 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111398-2002.12.17-14.23.14--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

<snip history>

> I hope this helps people to know where TAPR fits in...

Thanks Daryl. Pehaps I needed a history lesson.
But I suppose each project is different.

In future we should consider amateur's "right" or
"duty" to experiment in the way we licence IPR or
make use of other's IPR. The purpose of amateur
radio is an important part of the licence - no
less important than all those other rules and regs
we must follow by law.

Owners may be able to enhance the performance of
their hardware or software if they have access to
sourcecode. Without it the progress of improvement
stops. This seems to be much in evidence on TNCs.

It's important for training & education that hams
have access to the codebase and development tools
to build it. ie. learn by taking it apart and
putting it back together again. Change something
and see what happens.

Making designs freely available to hams doesn't stop
TAPR also making money from businesses who wish to
manufacture kits or pre-built units.

Is there a web-page of help on TAPR IPR?
Don't like legalese but I've got a contract of
employment to think about. I'm not allowed
to do similar work for other companies, but I
can't see why I can't do it for myself and give
it away...

Aside:

It's just occurred to me that you could now
build a tiny linux-based TNC with about 7 chips.

Just looking at the Samsung processors...

S3C4530A - ARM7, Ethernet, HDLC, UART, I2C (208QFP)

S3C2500 - ditto + ARM9, USB, PCI/Cardbus (272PBGA)
HDLC ctrlr is fully-featured with DPLL and DMA
BSP (board support package) for uClinux.

It seems synonymous with a platform for a Linux-
based AP. Current Linux-AP platforms aren't capable
of 54Mb/s; one based on S3C2500 would fix that - it
has 133MHz CPU, cardbus and 100baseT. But I can't
solder BGAs.

If TAPR built them, how many do you think we could
sell to WLAN-networkers the world over who adore
Linux? LOADS. Would they join TAPR? YES. Using the
evalboard circuit it's low risk design. We could
expect help from people on the OpenAP-dev list to
do the software; they are desperate for a platform
like this.

Ant M1FDE

---
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## 194. [ss] Re: TAPR in Europe.

From: "Lyle Johnson" <wa7gxd@fidalgo.net>
Date: Tue, 17 Dec 2002 12:18:21 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111400-2002.12.17-15.04.03--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Owners may be able to enhance the performance of
> their hardware or software if they have access to
> sourcecode. Without it the progress of improvement
> stops. This seems to be much in evidence on TNCs.

The source code to the TAPR TNC 1 was made available upon written request
back in 1983.  Nothing happened.

Bob Richardson published source code for TNC's in his books "Packet Radio:
The Software Approach" back in the early 1980s.  Nothing happened.

The TNC 2 source code was only made available to OEMs; it was not relased to
the general Amateur population.  It evolved into numerous verisons and
variants. A lot happened.

The source code to the TAPR Deviation Meter was openly published in the TAPR
Software Library and later on the web.  Nothing happened.

Access to source code for embedded devices is a Good Thing, but it doesn't
necessarily follow that improvements will come if the source is available,
or that lack of it prevents innovation and improvement.

Enjoy!

Lyle KK7P

(Note that I am a proponent of open source in so far as it is practical to
make it open.  But I am also a proponent of the right of the author to
withold the source if he so chooses...)

---
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## 195. [ss] Re: TAPR in Europe.

From: Jeff King <jeff@aerodata.net>
Date: Tue, 17 Dec 2002 16:29:13 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111403-2002.12.17-16.14.59--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Tue, 17 Dec 2002 12:18:21 -0800, Lyle Johnson wrote:
>>Owners may be able to enhance the performance of
>>their hardware or software if they have access to
>>sourcecode. Without it the progress of improvement
>>stops. This seems to be much in evidence on TNCs.

>The source code to the TAPR TNC 1 was made available upon written
>request back in 1983.  Nothing happened.

Was this made public?  About a year before my time, but first I heard of it.
I do see the schematics on the TAPR web site, but no software. And open
source doesn't require that the source be requested in writing with
conditions. If there are conditions, it is not open source.

And what about WA8DED host mode for the TNC1? How does this fit in with your
statement of 'nothing happened'? This was the only thing keeping the TNC1
going for years after TAPR walked away from it (In fact, it was the only way
to get AX.25 version 2.0 on the TNC1)

>Bob Richardson published source code for TNC's in his books "Packet

>Radio:
>The Software Approach" back in the early 1980s.  Nothing happened.

This is not my memory at all. Many of the early commodore C-64 versions of
bit banging TNC's cite this as a reference, as well as the later Baycom
modems. Far from 'nothing happened', Bob's paper was the conception of almost
every software TNC on the market.

>The source code to the TAPR Deviation Meter was openly published in
>the TAPR Software Library and later on the web.  Nothing happened.

Depends on your perspective. Have you heard of TheNET X1J? It incorporated
some of your deviation meter ideas, but instead of a one on one device, it
was a one on many device. The actual TNC itself read the deviation and could
report it back to the station that was querying for deviation. Paccomm and
MFJ were/are selling the A/D adapter boards. Sometimes open source is also
known as open ideas/improvements, and in that regards, I would take your
deviation meter as a rousing success.

BTW, where on the web is the source? This was the first I heard that the
source was available for it.

But I'd be more interested in seeing the source/IP for the TAPR spread
spectrum radio. Any clues on if and when that will ever be released as open
source? I'm looking for some frequency hopping code to play with on a PIC.

73

Jeff

---
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## 196. [ss] Re: TAPR in Europe. <LYR27907-111400-2002.12.17-15.04.03--rwmcgwier#comcast.net@lists.tapr.org>

From: Robert McGwier <rwmcgwier@comcast.net>
Date: Tue, 17 Dec 2002 17:11:34 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111406-2002.12.17-16.58.17--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Lyle:

I hear that memory is the second thing to go.  Will Heather
confirm this?

WA8DED gave us AX25 v 2 for TNC-1 using the published code.

But this is not really a fair list you have given us.  When the
TNC-2 was introduced and Howie limited distribution of the code,
we were in the explosive growth period of packet radio, it was
cheaper to manufacture the TNC-2, it drew less power, and on
and on.  The demand for the TNC-2 is what led to innovation on
the part of the manufacturers.

Frankly, I just can't see how there was ever going to be a great
demand for the deviation meter.  I never owned one.  I just
played with it until it sounded right on a receiver outside the
near field ;-).

I agree with your statement that embedded devices code do not seem
to lead to a lot.  I think this has more to do with return on
investment after the original inner circle has milked it to death.

Bob
N4HY

-----Original Message-----

From: bounce-ss-27907@lists.tapr.org
[mailto:bounce-ss-27907@lists.tapr.org]On Behalf Of Lyle Johnson
Sent: Tuesday, December 17, 2002 3:18 PM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] Re: TAPR in Europe.

> Owners may be able to enhance the performance of
> their hardware or software if they have access to
> sourcecode. Without it the progress of improvement
> stops. This seems to be much in evidence on TNCs.

The source code to the TAPR TNC 1 was made available upon written request
back in 1983.  Nothing happened.

Bob Richardson published source code for TNC's in his books "Packet Radio:
The Software Approach" back in the early 1980s.  Nothing happened.

The TNC 2 source code was only made available to OEMs; it was not relased to
the general Amateur population.  It evolved into numerous verisons and
variants. A lot happened.

The source code to the TAPR Deviation Meter was openly published in the TAPR
Software Library and later on the web.  Nothing happened.

Access to source code for embedded devices is a Good Thing, but it doesn't
necessarily follow that improvements will come if the source is available,
or that lack of it prevents innovation and improvement.

Enjoy!

Lyle KK7P

(Note that I am a proponent of open source in so far as it is practical to
make it open.  But I am also a proponent of the right of the author to
withold the source if he so chooses...)

---
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---
You are currently subscribed to ss as: lyris.ss@tapr.org
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## 197. [ss] Re: TAPR in Europe.

From: "Lyle Johnson" <wa7gxd@fidalgo.net>
Date: Tue, 17 Dec 2002 15:08:32 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111409-2002.12.17-17.54.37--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello Jeff!

> >The source code to the TAPR TNC 1 was made available upon written
> >request back in 1983.  Nothing happened.
>
> Was this made public?

It wasn't a secret, and I was taken to task about it in an Amateur
publication in Australia in 1984, so I suspect it was pretty public :-)

> I do see the schematics on the TAPR web site, but no software. And open
> source doesn't require that the source be requested in writing with
> conditions. If there are conditions, it is not open source.

I wasn't refering to "Open Source Movememnt" but open in the sense of
English, in that it wasn't closed and you could easily get it.  For me, that
is open.

I don't know of any conditions on use the TNC 1 code.  The authors just
wanted to know who wanted it, not to prevent it from being used.

> And what about WA8DED host mode for the TNC1? How does this fit
> in with your
> statement of 'nothing happened'? This was the only thing keeping the TNC1
> going for years after TAPR walked away from it.

"TAPR" didn't walk away from it, but development by the original software team did stop due to unavailability of the development environment used to develop the original code.  TAPR quite happily (and gratefully) distributed the WA8DED code for the TNC 1.

I incorrectly said "nothing happened" but was thinking of AX.25 v2 with the TAPR user interface for the TNC 1.  That never happened.

> (In fact, it was the only way
> to get AX.25 version 2.0 on the TNC1)

Ron Raikes wrote a great set of code for the TNC-1.  To my knowledge, it was an independent development and not based on the original TNC-1 source.  But your point is taken, something did happen.

> ...BTW, where on the web is the source [for the devmtr]? This was the
> first I heard that the source was available for it.

It is in the TAPR software library. (devmtr.sit)  I don't know why it is compressed with Stuffit rather than ZIP...

The QST article in Oct 1993 mentioned it was available, and I am sure (within the limits of my memory...) that it was mentioned in PSR.  I don't have a copy of the kit manual any longer - it may have mentioned it as well.

Regards,

Lyle KK7P

---
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## 198. [ss] Re: TAPR in Europe. <LYR27907-111400-2002.12.17-15.04.03--rwmcgwier#comcast.net@lists.tapr.org>

From: "Lyle Johnson" <wa7gxd@fidalgo.net>
Date: Tue, 17 Dec 2002 15:23:20 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111416-2002.12.17-18.09.08--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello Bob!

> I hear that memory is the second thing to go.  Will Heather
> confirm this?

Heather???  :-)

> But this is not really a fair list you have given us.  When the
> TNC-2 was introduced and Howie limited distribution of the code...

I was simply responding to the statement:

"Owners may be able to enhance the performance of
their hardware or software if they have access to
sourcecode. Without it the progress of improvement
stops. This seems to be much in evidence on TNCs."

The implication is that TNCs not having open source limited improvements.

My point was that the TNC-1 which had "open source" saw relatively little improvement.  The WA8DED code was the big improvement, but I have no knowledge that Ron Raikes used the TNC-1 source code for that.  In fact, he made a point of stating that the implementation was quite different, being based on 6809 assembly language and table lookup rather than Pascal and procedures.

The fellow who did the KISS code didn't use the TNC-1 source either, as I recall from the comments in his source files.  And that was a major software set used in numerous TNC-1s back in the heyday of KA9Q Net.

The TNC-2, on the other hand, saw NETROM, TheNET, and other developments in

the Amateur community, as well as all sorts of manufacturer's enhancements.
And it was closed.

As you say, Packet was in an explosive growth mode at the time.

Not mentioned is that much of today's equipment is based on ASICs which we
cannot buy, or FPGAs which also need to be "open" or the owner can't do much
in the way of hardware improvements (well, modifications, they may not
really be improvements).  Maybe that is why I like my Elecraft K-2 so much
(even if the PIC software is closed :-)

Anyway, no biggie, just wanted to jump in and this comment seemed to be the
invitation to do so :-)

73,

Lyle KK7P

---
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## 199. [ss] RE: TAPR in Europe.

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Wed, 18 Dec 2002 10:39:06 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111417-2002.12.17-18.24.30--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> do. Back in 1999, I went to the national conference of the NZART (ARRL
> for New Zealand) and spoke at their conference on APRS. I
> then spent the
> next couple of weeks doing another SEVEN talks on APRS arround the
> country. Go to new Zealand now, and you will find one of the most
> extensive national APRS networks in the world. People over
> there are now
> really into the mode. That is the power of marketing to ham radio

That mirrors my IRLP experience.  After setting up the first IRLP node in
VK3, I have since done a total of 7 talks to radio clubs and 2 talks to
computer groups.  Of the ham clubs I've spoken to, more than half have their
own system on the air, or are building/testing their system.  Hams are as
responsive to marketing as any segment of the population.  As for APRS, I'm
sold on that, just have to shoehorn it into an extremely "RF constrained"
environment.  Maybe I'll link to the packet network via 2.4 GHz SS :-)
(actually, that idea's not as silly as it sounds, if I can get a ham mate up
the road to run packet on VHF. :)  ).

---
Outgoing mail has been scanned for Viruses
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.427 / Virus Database: 240 - Release Date: 6/12/2002

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## 200. [ss] Re: TAPR in Europe. <LYR27907-111400-2002.12.17-15.04.03--rwmcgwier#comcast.net@lists.tapr.org>

From: Jeff King <jeff@aerodata.net>
Date: Tue, 17 Dec 2002 19:45:08 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111423-2002.12.17-19.30.57--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Tue, 17 Dec 2002 15:23:20 -0800, Lyle Johnson wrote:

>The TNC-2, on the other hand, saw NETROM, TheNET, and other
>developments in
>the Amateur community, as well as all sorts of manufacturer's
>enhancements.
>And it was closed.

Actually, this is not 100% correct. "TheNET" was a open source project. More importantly, and to Anthony's point, the only continued development we see in the TNC2 is in it's open source thread, that is, "TheNet", which spawned X1J, which spawned UiDigi, a APRS digi, whose development continues to this day.

-Jeff

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 201. [ss] Re: San Diego wireless net installs 72-mile, 2.4-GHz link

From: "Steven Bible" <n7hpr@tapr.org>
Date: Tue, 17 Dec 2002 19:30:00 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111425-2002.12.17-21.15.26--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Ouch! That really hurts!

Guess I better withdraw to the other room and continue putting the DSP-10 kits together.

Later everyone.

- Steve N7HPR

> -----Original Message-----
> From: bounce-ss-5189@lists.tapr.org
> [mailto:bounce-ss-5189@lists.tapr.org]On Behalf Of
> Anthony.N.Martin@marconimobile.com
> Sent: Tuesday, December 17, 2002 12:01 PM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: San Diego wireless net installs 72-mile, 2.4-GHz link
>
>
>
> <cut stuff about ex- 72-mile link>
> I can't believe the date on this post - server's not borken...
>
> Hey Mr. Steve Bible, we did that one to death weeks ago.
> Were you not awake... read the archives before posting.
>
> Let's not restart the FCC vs. Ham vs. licence-free war.
> We've poured many megabits over that fire already.
>
> It was reported the link has now been taken down.
>
>
> I'm quite conscious I'm flaming a TAPR director...
> You gotta love 'em, haven't you!
> Welcome Steve, I'm sure you're a nice chap. Nice
> to see Steve and Daryl involved in the lists. I commend
> Daryl for communicating effectively with members.
> And potential members. I will join, honest guv!
>
> Ant M1FDE
>
>
> > (left hand this is right hand, over!)
>
>  .    .    .    .    <no reply>
>
>
>
>

> ---
> You are currently subscribed to ss as: n7hpr@tapr.org
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 202. [ss] FCC allowing longer range ?

From: "Stephen Nichols" <sgnichols@mindspring.com>
Date: Tue, 17 Dec 2002 20:33:09 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111431-2002.12.17-22.18.20--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

http://www.commsdesign.com/news/OEG20021104S0025

http://www.businesswire.com/cgi-bin/f_headline.cgi?bw.121602/223500131

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 203. [ss] Re: San Diego wireless net installs 72-mile, 2.4-GHz link

From: Mark Bender <mbender@ix.netcom.com>
Date: Tue, 17 Dec 2002 20:43:13 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111434-2002.12.17-23.17.55--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve,

Are there more kits available, or are those kits already spoken for ?
(Is this round 2?)

Mark

Steven Bible wrote:

> Ouch! That really hurts!
>
> Guess I better withdraw to the other room and continue putting the DSP-10
> kits together.
>
> Later everyone.
>
> - Steve N7HPR
>
> > -----Original Message-----
> > From: bounce-ss-5189@lists.tapr.org
> > [mailto:bounce-ss-5189@lists.tapr.org]On Behalf Of
> > Anthony.N.Martin@marconimobile.com
> > Sent: Tuesday, December 17, 2002 12:01 PM
> > To: TAPR Spread Spectrum Special Interest Group
> > Subject: [ss] Re: San Diego wireless net installs 72-mile, 2.4-GHz link
> >
> >
> >
> > <cut stuff about ex- 72-mile link>
> > I can't believe the date on this post - server's not borken...
> >
> > Hey Mr. Steve Bible, we did that one to death weeks ago.
> > Were you not awake... read the archives before posting.
> >
> > Let's not restart the FCC vs. Ham vs. licence-free war.
> > We've poured many megabits over that fire already.
> >
> > It was reported the link has now been taken down.
> >
> >
> > I'm quite conscious I'm flaming a TAPR director...
> > You gotta love 'em, haven't you!
> > Welcome Steve, I'm sure you're a nice chap. Nice
> > to see Steve and Daryl involved in the lists. I commend

> > Daryl for communicating effectively with members.
> > And potential members. I will join, honest guv!
> >
> > Ant M1FDE
> >
> >
> > > (left hand this is right hand, over!)
> >
> >  .    .    .    .    <no reply>
> >
> >
> >
> >
> > ---
> > You are currently subscribed to ss as: n7hpr@tapr.org
> > To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
> >
>
> ---
> You are currently subscribed to ss as: mbender@ix.netcom.com
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 204. [ss] DSP-10 <LYR25160-111434-2002.12.17-23.17.55--ssbrockw#swbell.net@lists.tapr.org>

From: Steve <ssbrockw@swbell.net>
Date: Tue, 17 Dec 2002 22:48:10 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111436-2002.12.17-23.32.57--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

It's hard to say as the website only says "Sold Out" and no other
information has been posted including that they are doing a second run. I
guess that it is an early XMAS present that they don't want to tell us
about.

73,
Steve
KA5YFC

> -----Original Message-----
> From: Mark Bender
>
> Steve,
>
> Are there more kits available, or are those kits already spoken for ?
> (Is this round 2?)
>
> Mark
>
> Steven Bible wrote:
>
> > Guess I better withdraw to the other room and continue putting
> the DSP-10
> > kits together.
> >
> > Later everyone.
> >
> > - Steve N7HPR


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 205. [ss] RE: DSP-10 (was: San Diego wireless...)

From: "Steven Bible" <n7hpr@tapr.org>
Date: Tue, 17 Dec 2002 23:25:41 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111457-2002.12.18-01.11.15--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Gee, it just never stops, does it.

Yes, the announcement was made on the DSP-10 list.  Yes, the TAPR web page
says to email me if you are interested in a DSP-10 kit so that we could
decide on doing a second kitting.  Yes, the response was overwhelming, I
have had over 200 requests and they still keep coming in.  Yes, we started a
second kitting based on the responses.  Yes, we have been in the mist of a
second kitting for several months now.  What few kits are left will be sold
first on a first come first serve basis.

If you would like a kit, I suggest that you email me indicating your
request.  I'll put you in the queue.

No, the web pages are not updated.  And the reason is very simple, there is
no time.  The number of active volunteers has fallen to a handful.  The
amount of work that needs to be done has grown.  What is needed is active
volunteers to help with the multitude of administrative chores.  And a
little moral support wouldn't hurt either :-).

- Steve N7HPR


> -----Original Message-----
> From: bounce-ss-5189@lists.tapr.org
> [mailto:bounce-ss-5189@lists.tapr.org]On Behalf Of Steve
> Sent: Tuesday, December 17, 2002 9:48 PM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] DSP-10
> <LYR25160-111434-2002.12.17-23.17.55--ssbrockw#swbell.net@lists.tapr.org
> >
>
>
> It's hard to say as the website only says "Sold Out" and no other
> information has been posted including that they are doing a second run. I
> guess that it is an early XMAS present that they don't want to tell us
> about.
>
> 73,
> Steve
> KA5YFC
>
> > -----Original Message-----
> > From: Mark Bender
> >
> > Steve,
> >
> > Are there more kits available, or are those kits already spoken for ?
> > (Is this round 2?)
> >
> > Mark
> >
> > Steven Bible wrote:
> >
> > > Guess I better withdraw to the other room and continue putting
> > the DSP-10
> > > kits together.
> > >
> > > Later everyone.
> > >
> > > - Steve N7HPR
>
>
> ---
> You are currently subscribed to ss as: n7hpr@tapr.org
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 206. [ss] New Webpage - SS on 2437 MHz

From: "John Champa" <k8ocl@hotmail.com>
Date: Wed, 18 Dec 2002 02:36:48 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111461-2002.12.18-02.22.27--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Gentlemen:

Much worthwhile and enjoyable discussion here this time around!  If you
haven't check it out yet, please take a look at the new HSMM webpage:
www.arrl.org/hsmm and let us know of any suggested improvements.  All
constructive comments are welcomed.

Thanks,
John - K8OCL


From: "TAPR Spread Spectrum Special Interest Group digest"
<ss@lists.tapr.org>
Reply-To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
To: "ss digest recipients" <ss@lists.tapr.org>
Subject: ss digest: December 17, 2002
Date: Wed, 18 Dec 2002 00:00:34 -0500

TAPR Spread Spectrum Special Interest Group Digest for Tuesday, December 17,
2002.

1. RE: HTML Messages....
2. Re: Powerpoint Viewer
3. Re: Military application of 802.11b - long links
4. Re: San Diego wireless net installs 72-mile, 2.4-GHz link
5. Re: TAPR in Europe.
6. Re: TAPR in Europe.
7. Re: TAPR in Europe.
8. Re: TAPR in Europe.
<LYR27907-111400-2002.12.17-15.04.03--rwmcgwier#comcast.net@lists.tapr.org>
9. Re: TAPR in Europe.
10. Re: TAPR in Europe.
<LYR27907-111400-2002.12.17-15.04.03--rwmcgwier#comcast.net@lists.tapr.org>
11. RE: TAPR in Europe.
12. Re: TAPR in Europe.
<LYR27907-111400-2002.12.17-15.04.03--rwmcgwier#comcast.net@lists.tapr.org>
13. Re: San Diego wireless net installs 72-mile, 2.4-GHz link
14. FCC allowing longer range ?
15. Re: San Diego wireless net installs 72-mile, 2.4-GHz link
16. DSP-10
<LYR25160-111434-2002.12.17-23.17.55--ssbrockw#swbell.net@lists.tapr.org>

---

Subject: RE: HTML Messages....
From: Anthony.N.Martin@marconimobile.com
Date: Tue, 17 Dec 2002 11:23:09 +0000
X-Message-Number: 1


 > Hmm, maybe this has a technical solution.  TAPR runs the list server,
 > doesn't it?  I've been playing around with an email proxy called
 > MessageWall.  Among many other features, it has the ability to strip HTML
 > from emails

If you do this, make sure it correctly adjusts the headers to match.

I've had problems with messages from listservs that strip HTML
and yet leave "content-type" as multipart/mime  etc.

Lotus Notes vehemently objects to this error. Consequence you
don't get to see the post.

Ant



---

Subject: Re: Powerpoint Viewer
From: Anthony.N.Martin@marconimobile.com
Date: Tue, 17 Dec 2002 11:30:21 +0000
X-Message-Number: 2


Do you want me to convert the .ppt to a .pdf file - I did that for
someone 2 days ago. The result was 50% smaller too.

It's as simple as printing it (in powerpoint or powerpoint viewer
or your fave Unix office package) to a PDF writer device.

It has the convenient side-effect of stripping those silly
animations.

Ant

---

Subject: Re: Military application of 802.11b - long links
From: Anthony.N.Martin@marconimobile.com
Date: Tue, 17 Dec 2002 18:29:16 +0000
X-Message-Number: 3

> 9. But if we run TCP so that we are sure of getting the data off, that
> requires an ACK at IP level, with a lot of negotiation in order to
> change direction. I would guess that adding TCP ack would add a minimum
> 4-6 mSec, making the throughput much lower.

Multiple packets may be sent before acks are received in TCP.
It doesn't wait for individual packets to be acked. Packets
are acked by number and the quantity that can be "in transit"
depends on the window size. TCP acks will consume some time on
the link. They are short packets but framing overhead is high.
It's a pity 802.11 can't send multiple short IP packets in one
burst with one sync preamble and ack overhead. Another failing
of 802.11 / AX.25 ... but 802.11 does provide some help.

"negotiation" isn't required to change direction; Turnround time
for an 802.11 ack is small; turnround time for TCP-ack will be
slightly higher but not much. Lots of contention may be required!

What will happen is that one end will be firing traffic packets
while the other end is trying to get TCP-acks back, so both ends
contend at each packet for the right to transmit. With long link
delays, that contention phase will "fight" for a long time before
it's resolved who won.

If the stations opt to use the "ack+data" packet then the
contention would be avoided, and turnrounds minimised. The
TCP-ack sneaks in with the 802.11 ack, which is in in turn
acked with the next traffic packet. CF-time is continually
extended and no contention occurs. The 802.11 acks almost
vanish from the link. (hey - AX.25 sux). Use of the full
gamut of 802.11 packet types isn't compulsory; a working
implementation can be built without. Performance would
therefore be implementation-dependent.

This is one reason I'd like people to post packet-sniffer
dumps on the net (naming the firmware/software involved) so
we can see which implementations are good and which aren't.
Implementations that make maximum use of bandwidth-saving
protocol elements being "good".

Ant

---

Subject: Re: San Diego wireless net installs 72-mile, 2.4-GHz link
From: Anthony.N.Martin@marconimobile.com
Date: Tue, 17 Dec 2002 19:01:09 +0000
X-Message-Number: 4

<cut stuff about ex- 72-mile link>
I can't believe the date on this post - server's not borken...

Hey Mr. Steve Bible, we did that one to death weeks ago.
Were you not awake... read the archives before posting.

Let's not restart the FCC vs. Ham vs. licence-free war.
We've poured many megabits over that fire already.

It was reported the link has now been taken down.

I'm quite conscious I'm flaming a TAPR director...
You gotta love 'em, haven't you!
Welcome Steve, I'm sure you're a nice chap. Nice
to see Steve and Daryl involved in the lists. I commend
Daryl for communicating effectively with members.
And potential members. I will join, honest guv!

Ant M1FDE

> (left hand this is right hand, over!)

. . . . <no reply>

---

Subject: Re: TAPR in Europe.
From: Anthony.N.Martin@marconimobile.com
Date: Tue, 17 Dec 2002 19:38:10 +0000
X-Message-Number: 5

<snip history>

> I hope this helps people to know where TAPR fits in...

Thanks Daryl. Pehaps I needed a history lesson.
But I suppose each project is different.

In future we should consider amateur's "right" or
"duty" to experiment in the way we licence IPR or
make use of other's IPR. The purpose of amateur
radio is an important part of the licence - no
less important than all those other rules and regs
we must follow by law.

Owners may be able to enhance the performance of
their hardware or software if they have access to
sourcecode. Without it the progress of improvement
stops. This seems to be much in evidence on TNCs.

It's important for training & education that hams
have access to the codebase and development tools
to build it. ie. learn by taking it apart and
putting it back together again. Change something
and see what happens.

Making designs freely available to hams doesn't stop
TAPR also making money from businesses who wish to
manufacture kits or pre-built units.

Is there a web-page of help on TAPR IPR?
Don't like legalese but I've got a contract of
employment to think about. I'm not allowed
to do similar work for other companies, but I
can't see why I can't do it for myself and give
it away...

Aside:

It's just occurred to me that you could now
build a tiny linux-based TNC with about 7 chips.

Just looking at the Samsung processors...

S3C4530A - ARM7, Ethernet, HDLC, UART, I2C (208QFP)

S3C2500 - ditto + ARM9, USB, PCI/Cardbus (272PBGA)
HDLC ctrlr is fully-featured with DPLL and DMA
BSP (board support package) for uClinux.

It seems synonymous with a platform for a Linux-
based AP. Current Linux-AP platforms aren't capable
of 54Mb/s; one based on S3C2500 would fix that - it
has 133MHz CPU, cardbus and 100baseT. But I can't
solder BGAs.

If TAPR built them, how many do you think we could
sell to WLAN-networkers the world over who adore
Linux? LOADS. Would they join TAPR? YES. Using the
evalboard circuit it's low risk design. We could
expect help from people on the OpenAP-dev list to
do the software; they are desperate for a platform
like this.

Ant M1FDE

---

Subject: Re: TAPR in Europe.
From: "Lyle Johnson" <wa7gxd@fidalgo.net>
Date: Tue, 17 Dec 2002 12:18:21 -0800
X-Message-Number: 6

> Owners may be able to enhance the performance of
> their hardware or software if they have access to
> sourcecode. Without it the progress of improvement
> stops. This seems to be much in evidence on TNCs.

The source code to the TAPR TNC 1 was made available upon written request
back in 1983.  Nothing happened.

Bob Richardson published source code for TNC's in his books "Packet Radio:
The Software Approach" back in the early 1980s.  Nothing happened.

The TNC 2 source code was only made available to OEMs; it was not relased to
the general Amateur population.  It evolved into numerous verisons and
variants. A lot happened.

The source code to the TAPR Deviation Meter was openly published in the TAPR
Software Library and later on the web.  Nothing happened.

Access to source code for embedded devices is a Good Thing, but it doesn't
necessarily follow that improvements will come if the source is available,
or that lack of it prevents innovation and improvement.

Enjoy!

Lyle KK7P

(Note that I am a proponent of open source in so far as it is practical to
make it open.  But I am also a proponent of the right of the author to
withold the source if he so chooses...)

---

Subject: Re: TAPR in Europe.
From:     Jeff King <jeff@aerodata.net>
Date: Tue, 17 Dec 2002 16:29:13 -0500
X-Message-Number: 7

On Tue, 17 Dec 2002 12:18:21 -0800, Lyle Johnson wrote:
>>Owners may be able to enhance the performance of
>>their hardware or software if they have access to
>>sourcecode. Without it the progress of improvement
>>stops. This seems to be much in evidence on TNCs.

>The source code to the TAPR TNC 1 was made available upon=
 written
>request back in 1983.  Nothing happened.

Was this made public?  About a year before my time, but first I=
 heard of it.

I do see the schematics on the TAPR web site, but no software.= And open
source doesn't require that the source be requested in writing= with
conditions. If there are conditions, it is not open source.

And what about WA8DED host mode for the TNC1? How does this fit= in with your
statement of 'nothing happened'? This was the only thing keeping= the TNC1
going for years after TAPR walked away from it (In fact, it was= the only way
to get AX.25 version 2.0 on the TNC1)

>Bob Richardson published source code for TNC's in his books= "Packet
>Radio:
>The Software Approach" back in the early 1980s. Nothing= happened.

This is not my memory at all. Many of the early commodore C-64= versions of
bit banging TNC's cite this as a reference, as well as the later= Baycom
modems. Far from 'nothing happened', Bob's paper was the= conception of almost
every software TNC on the market.

>The source code to the TAPR Deviation Meter was openly published= in
>the TAPR Software Library and later on the web. Nothing= happened.

Depends on your perspective. Have you heard of TheNET X1J? It= incorporated
some of your deviation meter ideas, but instead of a one on one= device, it
was a one on many device. The actual TNC itself read the= deviation and could
report it back to the station that was querying for deviation.= Paccomm and
MFJ were/are selling the A/D adapter boards. Sometimes open= source is also
known as open ideas/improvements, and in that regards, I would= take your
deviation meter as a rousing success.

BTW, where on the web is the source? This was the first I heard= that the
source was available for it.

But I'd be more interested in seeing the source/IP for the TAPR= spread
spectrum radio. Any clues on if and when that will ever be= released as open
source? I'm looking for some frequency hopping code to play with= on a PIC.

73

Jeff

---

Subject: Re: TAPR in Europe.
<LYR27907-111400-2002.12.17-15.04.03--rwmcgwier#comcast.net@lists.tapr.org>
From: Robert McGwier <rwmcgwier@comcast.net>
Date: Tue, 17 Dec 2002 17:11:34 -0500
X-Message-Number: 8

Lyle:

I hear that memory is the second thing to go.  Will Heather
confirm this?


WA8DED gave us AX25 v 2 for TNC-1 using the published code.

But this is not really a fair list you have given us.  When the
TNC-2 was introduced and Howie limited distribution of the code,
we were in the explosive growth period of packet radio, it was
cheaper to manufacture the TNC-2, it drew less power, and on
and on.  The demand for the TNC-2 is what led to innovation on
the part of the manufacturers.

Frankly, I just can't see how there was ever going to be a great
demand for the deviation meter.  I never owned one.  I just
played with it until it sounded right on a receiver outside the
near field ;-).

I agree with your statement that embedded devices code do not seem
to lead to a lot.  I think this has more to do with return on
investment after the original inner circle has milked it to death.

Bob
N4HY


-----Original Message-----
From: bounce-ss-27907@lists.tapr.org
[mailto:bounce-ss-27907@lists.tapr.org]On Behalf Of Lyle Johnson
Sent: Tuesday, December 17, 2002 3:18 PM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] Re: TAPR in Europe.


 > Owners may be able to enhance the performance of
 > their hardware or software if they have access to
 > sourcecode. Without it the progress of improvement
 > stops. This seems to be much in evidence on TNCs.

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Software Library and later on the web.  Nothing happened.

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necessarily follow that improvements will come if the source is available,
or that lack of it prevents innovation and improvement.

Enjoy!

Lyle KK7P

(Note that I am a proponent of open source in so far as it is practical to
make it open.  But I am also a proponent of the right of the author to
withold the source if he so chooses...)




---
You are currently subscribed to ss as: rwmcgwier@comcast.net
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org



---

Subject: Re: TAPR in Europe.

From: "Lyle Johnson" <wa7gxd@fidalgo.net>
Date: Tue, 17 Dec 2002 15:08:32 -0800
X-Message-Number: 9
Hello Jeff!

> >The source code to the TAPR TNC 1 was made available upon written
> >request back in 1983.  Nothing happened.
>
> Was this made public?

It wasn't a secret, and I was taken to task about it in an Amateur
publication in Australia in 1984, so I suspect it was pretty public :-)

> I do see the schematics on the TAPR web site, but no software. And open
> source doesn't require that the source be requested in writing with
> conditions. If there are conditions, it is not open source.

I wasn't refering to "Open Source Movememnt" but open in the sense of
English, in that it wasn't closed and you could easily get it.  For me, that
is open.

I don't know of any conditions on use the TNC 1 code.  The authors just
wanted to know who wanted it, not to prevent it from being used.

> And what about WA8DED host mode for the TNC1? How does this fit
> in with your
> statement of 'nothing happened'? This was the only thing keeping the TNC1
> going for years after TAPR walked away from it.

"TAPR" didn't walk away from it, but development by the original software
team did stop due to unavailability of the development environment used to
develop the original code.  TAPR quite happily (and gratefully) distributed
the WA8DED code for the TNC 1.

I incorrectly said "nothing happened" but was thinking of AX.25 v2 with the
TAPR user interface for the TNC 1.  That never happened.

> (In fact, it was the only way
> to get AX.25 version 2.0 on the TNC1)

Ron Raikes wrote a great set of code for the TNC-1.  To my knowledge, it was
an independent development and not based on the original TNC-1 source.  But
your point is taken, something did happen.

> ...BTW, where on the web is the source [for the devmtr]? This was the
> first I heard that the source was available for it.

It is in the TAPR software library. (devmtr.sit)  I don't know why it is
compressed with Stuffit rather than ZIP...

The QST article in Oct 1993 mentioned it was available, and I am sure
(within the limits of my memory...) that it was mentioned in PSR.  I don't
have a copy of the kit manual any longer - it may have mentioned it as well.

Regards,

Lyle KK7P

---

Subject: Re: TAPR in Europe.
<LYR27907-111400-2002.12.17-15.04.03--rwmcgwier#comcast.net@lists.tapr.org>
From: "Lyle Johnson" <wa7gxd@fidalgo.net>
Date: Tue, 17 Dec 2002 15:23:20 -0800
X-Message-Number: 10

Hello Bob!

> I hear that memory is the second thing to go.  Will Heather
> confirm this?

Heather???  :-)

> But this is not really a fair list you have given us.  When the
> TNC-2 was introduced and Howie limited distribution of the code...

I was simply responding to the statement:

"Owners may be able to enhance the performance of
their hardware or software if they have access to
sourcecode. Without it the progress of improvement
stops. This seems to be much in evidence on TNCs."

The implication is that TNCs not having open source limited improvements.

My point was that the TNC-1 which had "open source" saw relatively little
improvement.  The WA8DED code was the big improvement, but I have no
knowledge that Ron Raikes used the TNC-1 source code for that.  In fact, he
made a point of stating that the implementation was quite different, being
based on 6809 assembly language and table lookup rather than Pascal and
procedures.

The fellow who did the KISS code didn't use the TNC-1 source either, as I
recall from the comments in his source files.  And that was a major software
set used in numerous TNC-1s back in the heyday of KA9Q Net.

The TNC-2, on the other hand, saw NETROM, TheNET, and other developments in
the Amateur community, as well as all sorts of manufacturer's enhancements.
And it was closed.

As you say, Packet was in an explosive growth mode at the time.

Not mentioned is that much of today's equipment is based on ASICs which we
cannot buy, or FPGAs which also need to be "open" or the owner can't do much
in the way of hardware improvements (well, modifications, they may not
really be improvements).  Maybe that is why I like my Elecraft K-2 so much
(even if the PIC software is closed :-)

Anyway, no biggie, just wanted to jump in and this comment seemed to be the
invitation to do so :-)

73,

Lyle KK7P

---

Subject: RE: TAPR in Europe.
From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Wed, 18 Dec 2002 10:39:06 +1100
X-Message-Number: 11

 > do. Back in 1999, I went to the national conference of the NZART =
(ARRL
 > for New Zealand) and spoke at their conference on APRS. I=20
 > then spent the
 > next couple of weeks doing another SEVEN talks on APRS arround the
 > country. Go to new Zealand now, and you will find one of the most
 > extensive national APRS networks in the world. People over=20
 > there are now
 > really into the mode. That is the power of marketing to ham radio

That mirrors my IRLP experience.  After setting up the first IRLP node =
in
VK3, I have since done a total of 7 talks to radio clubs and 2 talks to
computer groups.  Of the ham clubs I've spoken to, more than half have =
their
own system on the air, or are building/testing their system.  Hams are =
as
responsive to marketing as any segment of the population.  As for APRS, =
I'm
sold on that, just have to shoehorn it into an extremely "RF =
constrained"
environment.  Maybe I'll link to the packet network via 2.4 GHz SS :-)
(actually, that idea's not as silly as it sounds, if I can get a ham =
mate up
the road to run packet on VHF. :)  ).

---
Outgoing mail has been scanned for Viruses
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.427 / Virus Database: 240 - Release Date: 6/12/2002
=20

This correspondence is for the named person=92s use only. It may =
contain
confidential or legally privileged information or both. No =
confidentiality
or privilege is waived or lost by any mistransmission. If you receive =
this
correspondence in error, please immediately delete it from your system =
and
notify the sender. You must not disclose, copy or rely on any part of =
this
correspondence if you are not the intended recipient.

Any opinions expressed in this message are those of the individual =
sender.

---

Subject: Re: TAPR in Europe.
<LYR27907-111400-2002.12.17-15.04.03--rwmcgwier#comcast.net@lists.tapr.org>
From: Jeff King <jeff@aerodata.net>
Date: Tue, 17 Dec 2002 19:45:08 -0500
X-Message-Number: 12

On Tue, 17 Dec 2002 15:23:20 -0800, Lyle Johnson wrote:

>The TNC-2, on the other hand, saw NETROM, TheNET, and other
>developments in
>the Amateur community, as well as all sorts of manufacturer's
>enhancements.
>And it was closed.

Actually, this is not 100% correct. "TheNET" was a open source=
project. More
importantly, and to Anthony's point, the only continued=
development we see in
the TNC2 is in it's open source thread, that is, "TheNet", which=
spawned X1J,
which spawned UiDigi, a APRS digi, whose development continues to=
this day.

-Jeff

---

Subject: Re: San Diego wireless net installs 72-mile, 2.4-GHz link
From: "Steven Bible" <n7hpr@tapr.org>
Date: Tue, 17 Dec 2002 19:30:00 -0700
X-Message-Number: 13

Ouch! That really hurts!

Guess I better withdraw to the other room and continue putting the DSP-10
kits together.

Later everyone.

- Steve N7HPR

> -----Original Message-----
> From: bounce-ss-5189@lists.tapr.org
> [mailto:bounce-ss-5189@lists.tapr.org]On Behalf Of
> Anthony.N.Martin@marconimobile.com
> Sent: Tuesday, December 17, 2002 12:01 PM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: San Diego wireless net installs 72-mile, 2.4-GHz link
>
>
>
> <cut stuff about ex- 72-mile link>
> I can't believe the date on this post - server's not borken...
>
> Hey Mr. Steve Bible, we did that one to death weeks ago.

> Were you not awake... read the archives before posting.
>
> Let's not restart the FCC vs. Ham vs. licence-free war.
> We've poured many megabits over that fire already.
>
> It was reported the link has now been taken down.
>
>
> I'm quite conscious I'm flaming a TAPR director...
> You gotta love 'em, haven't you!
> Welcome Steve, I'm sure you're a nice chap. Nice
> to see Steve and Daryl involved in the lists. I commend
> Daryl for communicating effectively with members.
> And potential members. I will join, honest guv!
>
> Ant M1FDE
>
>
> > (left hand this is right hand, over!)
>
> . . . . <no reply>
>
>
>
>
> ---
> You are currently subscribed to ss as: n7hpr@tapr.org
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>

---

Subject: FCC allowing longer range ?
From: "Stephen Nichols" <sgnichols@mindspring.com>
Date: Tue, 17 Dec 2002 20:33:09 -0700
X-Message-Number: 14

http://www.commsdesign.com/news/OEG20021104S0025

http://www.businesswire.com/cgi-bin/f_headline.cgi?bw.121602/223500131

---

Subject: Re: San Diego wireless net installs 72-mile, 2.4-GHz link
From: Mark Bender <mbender@ix.netcom.com>
Date: Tue, 17 Dec 2002 20:43:13 -0800
X-Message-Number: 15

Steve,

Are there more kits available, or are those kits already spoken for ?
(Is this round 2?)

Mark

Steven Bible wrote:

> Ouch! That really hurts!
>
> Guess I better withdraw to the other room and continue putting the DSP-10
> kits together.
>
> Later everyone.
>
> - Steve N7HPR
>
> > -----Original Message-----
> > From: bounce-ss-5189@lists.tapr.org
> > [mailto:bounce-ss-5189@lists.tapr.org]On Behalf Of
> > Anthony.N.Martin@marconimobile.com
> > Sent: Tuesday, December 17, 2002 12:01 PM
> > To: TAPR Spread Spectrum Special Interest Group
> > Subject: [ss] Re: San Diego wireless net installs 72-mile, 2.4-GHz link
> >
> >

> >
> > <cut stuff about ex- 72-mile link>
> > I can't believe the date on this post - server's not borken...
> >
> > Hey Mr. Steve Bible, we did that one to death weeks ago.
> > Were you not awake... read the archives before posting.
> >
> > Let's not restart the FCC vs. Ham vs. licence-free war.
> > We've poured many megabits over that fire already.
> >
> > It was reported the link has now been taken down.
> >
> >
> > I'm quite conscious I'm flaming a TAPR director...
> > You gotta love 'em, haven't you!
> > Welcome Steve, I'm sure you're a nice chap. Nice
> > to see Steve and Daryl involved in the lists. I commend
> > Daryl for communicating effectively with members.
> > And potential members. I will join, honest guv!
> >
> > Ant M1FDE
> >
> >
> > > (left hand this is right hand, over!)
> >
> >  .    .    .    .    <no reply>
> >
> >
> >
> >
> > ---
> > You are currently subscribed to ss as: n7hpr@tapr.org
> > To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
> >
>
> ---
> You are currently subscribed to ss as: mbender@ix.netcom.com
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---

Subject: DSP-10
<LYR25160-111434-2002.12.17-23.17.55--ssbrockw#swbell.net@lists.tapr.org>
From: Steve <ssbrockw@swbell.net>
Date: Tue, 17 Dec 2002 22:48:10 -0600
X-Message-Number: 16

It's hard to say as the website only says "Sold Out" and no other
information has been posted including that they are doing a second run. I
guess that it is an early XMAS present that they don't want to tell us
about.

73,
Steve
KA5YFC

> -----Original Message-----
> From: Mark Bender
>
> Steve,
>
> Are there more kits available, or are those kits already spoken for ?
> (Is this round 2?)
>
> Mark
>
> Steven Bible wrote:
>
> > Guess I better withdraw to the other room and continue putting
> the DSP-10
> > kits together.
> >
> > Later everyone.
> >
> > - Steve N7HPR

---

END OF DIGEST

---
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_____
Tired of spam? Get advanced junk mail protection with MSN 8.
http://join.msn.com/?page=features/junkmail

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 207. [ss] RE: FCC allowing longer range ?

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Wed, 18 Dec 2002 21:09:55 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111471-2002.12.18-04.56.05--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Well...

The way I read the information on the Vivato stuff is that they have
worked out how to have a antenna that they can direct into a tight beam
electronically. Really it is not hard to get that sort of thing
approved.

I believe that the FCC have approved DISH antennas that get that sort of
range (4 miles OUTDOORS, not 4 miles to INDOORS as mentioned on another
mailing list). Think of this device as a DISH that is electrically
steerable rather than mechanically steerable with a man and tilt
controller.

As for the electronics in this device, think of it as a KISS modem
rather than a full TNC....

Darryl

P.s. I hope they attempt to patent bits of it... It would be good for
the DCC proceedings to be used for the source of another patent being
cancelled :-)

---
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 208. [ss] Diplexer filters for 2.4GHz

From: Anthony.N.Martin@marconimobile.com
Date: Wed, 18 Dec 2002 13:21:54 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111496-2002.12.18-08.07.00--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Does anyone know of any off-the-shelf filters that split the
2.4-2.485GHz band in two? Any suppliers that could make
them quickly?

This is a commercial request. I know 5 metres of fresh air
between the antennas would do fine, but in this application
they must be on the same box.

Ant M1FDE

---

You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 209. [ss] Re: Diplexer filters for 2.4GHz

From: "jeff millar" <jeff@wa1hco.mv.com>
Date: Wed, 18 Dec 2002 08:37:00 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111497-2002.12.18-08.22.27--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Clearcom
----- Original Message -----
From: <Anthony.N.Martin@marconimobile.com>
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Sent: Wednesday, December 18, 2002 8:21 AM
Subject: [ss] Diplexer filters for 2.4GHz

> Does anyone know of any off-the-shelf filters that split the
> 2.4-2.485GHz band in two? Any suppliers that could make
> them quickly?
>
> This is a commercial request. I know 5 metres of fresh air
> between the antennas would do fine, but in this application
> they must be on the same box.
>
> Ant M1FDE
>
>
>
> ---
> You are currently subscribed to ss as: JEFF@WA1HCO.MV.COM
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 210. [ss] RE: FCC allowing longer range ?

From: "Hare,Ed, W1RFI" <w1rfi@arrl.org>
Date: Wed, 18 Dec 2002 11:17:18 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111515-2002.12.18-11.02.48--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

73,
Ed Hare, W1RFI
ARRL Lab
225 Main St
Newington, CT 06111
Tel: 860-594-0318
Internet: w1rfi@arrl.org
Web: http://www.arrl.org/tis

ARRL is the National Association for Amateur Radio.  It is supported by membership dues, individual contributions and the sale of  publications and advertising. For more information about ARRL, go to http://www.arrl.org/news/features/inside-your-league.html. For more information about membership, go to http://www.arrl.org/join.html.  Your contribution can also help support ARRL's ongoing efforts to protect Amateur spectrum. Go to https://www.arrl.org/forms/development/donations/basic/ to learn more about the ways you can support the ARRL programs and activities of most importance to you. You can help ARRL protect Amateur Radio for you and future generations to enjoy.

> -----Original Message-----
> From: Darryl Smith [mailto:Darryl@radio-active.net.au]
> Sent: Wednesday, December 18, 2002 5:10 AM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] RE: FCC allowing longer range ?
>
>
> Well...
>
> The way I read the information on the Vivato stuff is that they have
> worked out how to have a antenna that they can direct into a
> tight beam
> electronically. Really it is not hard to get that sort of thing

> approved.
>
> I believe that the FCC have approved DISH antennas that get
> that sort of
> range (4 miles OUTDOORS, not 4 miles to INDOORS as mentioned
> on another
> mailing list). Think of this device as a DISH that is electrically
> steerable rather than mechanically steerable with a man and tilt
> controller.
>
> As for the electronics in this device, think of it as a KISS modem
> rather than a full TNC....
>
> Darryl
>
> P.s. I hope they attempt to patent bits of it... It would be good for
> the DCC proceedings to be used for the source of another patent being
> cancelled :-)
>
> ---------
> Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
> Mobile Number 0412 929 634 [+61 4 12 929 634 International]
> Darryl@radio-active.net.au | www.radio-active.net.au
>
>
>
> ---
> You are currently subscribed to ss as: W1RFI@ARRL.ORG
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 211. [ss] RE: FCC allowing longer range ?

From: "Hare,Ed, W1RFI" <w1rfi@arrl.org>
Date: Wed, 18 Dec 2002 11:23:42 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111517-2002.12.18-11.09.16--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> The way I read the information on the Vivato stuff is that they have
> worked out how to have a antenna that they can direct into a
> tight beam electronically. Really it is not hard to get that sort of thing
> approved.

Sorry about the blank post -- and the commerical. One click too many and away it goes. :-) I usually remember to trim my sig for my posts to reflectors.

The Part 15 rules permit a maximum of 1W for SS devices. On 2.4 GHz, the antenna gain can be up to 6 dBi with no power reduction. The power must be reduced by 1 dB for every 3 dB that the antenna gain exceeds 6 dBi.

On the 5 GHz Part 15 bands, there is no requirement to reduce power for increased antenna gain.

73,
Ed Hare, W1RFI
ARRL Lab
225 Main St
Newington, CT 06111
Tel: 860-594-0318
Internet: w1rfi@arrl.org
Web: http://www.arrl.org/tis

> -----Original Message-----
> From: Darryl Smith [mailto:Darryl@radio-active.net.au]
> Sent: Wednesday, December 18, 2002 5:10 AM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] RE: FCC allowing longer range ?
>
>
> Well...
>
> The way I read the information on the Vivato stuff is that they have
> worked out how to have a antenna that they can direct into a

> tight beam
> electronically. Really it is not hard to get that sort of thing
> approved.
>
> I believe that the FCC have approved DISH antennas that get
> that sort of
> range (4 miles OUTDOORS, not 4 miles to INDOORS as mentioned
> on another
> mailing list). Think of this device as a DISH that is electrically
> steerable rather than mechanically steerable with a man and tilt
> controller.
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> As for the electronics in this device, think of it as a KISS modem
> rather than a full TNC....
>
> Darryl
>
> P.s. I hope they attempt to patent bits of it... It would be good for
> the DCC proceedings to be used for the source of another patent being
> cancelled :-)
>
> ---------
> Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
> Mobile Number 0412 929 634 [+61 4 12 929 634 International]
> Darryl@radio-active.net.au | www.radio-active.net.au
>
>
>
> ---
> You are currently subscribed to ss as: W1RFI@ARRL.ORG
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 212. [ss] RE: FCC allowing longer range ?

From: "Steve Stroh" <lists@strohpub.com>
Date: Wed, 18 Dec 2002 09:20:44 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111521-2002.12.18-12.07.45--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Darryl:

What Vivato has developed is called a Phased Array Antenna, using Wi-Fi gear
as the Customer Premise Equipment (CPE).

We've had PAA technology for some time, but Vivato is the first to marry it
to Wi-Fi devices.

In essence, the Vivato system is a Wi-Fi Access Point... with MUCH greater
range.

There are NUMEROUS long-range antennas approved by the FCC for 2.4 GHz -
panel, yagi, "slotted" dish (barbeque grill), circular polarization, that
can extend the range of 2.4 GHz devices to 20 miles (and more) pretty easily
(and yes, quite legally as long as a particular antenna is certified in a
system with a particular radio and/or amplifier combination.)


Thanks,

Steve

--
Steve Stroh   steve@strohpub.com  425-481-0600
Editor - FOCUS on Broadband Wireless Internet Access newsletter
http://www.strohpub.com/focus


> -----Original Message-----
> From: bounce-ss-24593@lists.tapr.org
> [mailto:bounce-ss-24593@lists.tapr.org]On Behalf Of Darryl Smith
> Sent: Wednesday, December 18, 2002 02:10
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] RE: FCC allowing longer range ?

> 
> 
> Well...
> 
> The way I read the information on the Vivato stuff is that they have
> worked out how to have a antenna that they can direct into a tight beam
> electronically. Really it is not hard to get that sort of thing
> approved.
> 
> I believe that the FCC have approved DISH antennas that get that sort of
> range (4 miles OUTDOORS, not 4 miles to INDOORS as mentioned on another
> mailing list). Think of this device as a DISH that is electrically
> steerable rather than mechanically steerable with a man and tilt
> controller.
> 
> As for the electronics in this device, think of it as a KISS modem
> rather than a full TNC....
> 
> Darryl
> 
> P.s. I hope they attempt to patent bits of it... It would be good for
> the DCC proceedings to be used for the source of another patent being
> cancelled :-)
> 
> ---------
> Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
> Mobile Number 0412 929 634 [+61 4 12 929 634 International]
> Darryl@radio-active.net.au | www.radio-active.net.au
> 
> 
> 
> ---
> You are currently subscribed to ss as: lists@strohpub.com
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
> 
> 



---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 213. [ss] RE: FCC allowing longer range ?

From: Anthony.N.Martin@marconimobile.com
Date: Wed, 18 Dec 2002 21:00:35 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111548-2002.12.18-15.45.46--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Antenova antennas
http://www.wordsun.com/photolibs/antenovaphotos.html

Note the 5 sectored array for 5.8GHz WLAN.

With 72 degree beamwidth horizontal and 20 degree in the
vertical plane, you could compute the gain.

My sperical geometry is a bit rusty but I make that 19.5dBi.
Anyone like to check my maths?

I don't think you need to invoke very complex RF assemblies
like adaptive beamforming to get ranges like 4 miles outdoors
from a well-placed access point; just sectorised panel antennas.
Same as that used on every mobile phone base-station. No
need for special Antenova dielectrics.

Remember that important rule of advertising: "range" and
"data rate" don't necessarily occur simultaneously!

When we hear of phased arrays we immediately think of
adaptive beamforming but a planar array of patch antennas
is still a phased array when linked with fixed phasing lines
to obtain a desired beam pattern. IMO that's all Vivato has.

Flat panels were deployed by the now-defunct BSB satellite
broadcaster in the UK over 10 years ago in the form of the
"squarial".  ie. they're competitive with dishes. They're a popular
choice for WLL; I'm not sure what the merits are over yagis; just

higher gain like dishes I suppose. You can hide a large
electronics PCB on the back.

Some pictures of the "squarial" and it's internal construction:
http://www.whom.co.uk/grundig/bsb.htm
The squarials were right-hand circular polarisation.

The squarial seems to be making a UK resurgence in the
form of 3.4GHz WISP  "Squarial Wireless Broadband", and
you can buy today's squarials for your DBS TV receiver.

Ant

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 214. Pay nothing for your conference calls!

From: "Telcom center" <max9249@ampire.com.tw>
Date: Wed, 18 Dec 2002 11:48:58 -2000
To: <max9249@ampire.com.tw>
Message-ID: <000025840646$000010ae$0000558e@mail-relay.eunet.se>
Rendered body type: text/html

Compare What You Pay
For Conference Calls

We Only Charge 15 Cents
Per Minute!

(INCLUDES LONG DISTANCE)

No setup fees

No contracts or monthly fees

Call anytime, from anywhere, to anywhere

Connects up to 100 Participants

Simplicity in set up and administration

Operator Help available 24/7

Account Approval Required

Use Our Crystal Clear Conferencing Service
to Manage Your Long Distance
Meetings.

Fill out the form below and a representative
will contact you with
more information.

Required Input Field*

Name*

Web
Address

Company
Name

State*

Business
Phone*

Home
Phone

Email
Address*

Type of
Business

We are strongly against sending unsolicited emails to
those who do not wish to receive our mailings. We have attained the services
of an independent 3rd party to overlook list management and removal
services. To be removed from our list, send an e-mail to remove@virtual-biz.net with the word
"remove" in the subject line.

## 215. [ss] Antennas in the real world.

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Fri, 20 Dec 2002 22:13:05 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111767-2002.12.20-05.59.04--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>From wireless@lists.samba.org

Well,  I ran around with two HUGE quad helicals experimenting with
antenna performance.  On paper, the 4x28 turn monster was ~27dBi and the
4x17 turn ~24dBi.

Paper is an exceptionally good propagation medium - I recommend it
wholeheartedly.  Unfortunately my radio waves had to get through air,
rather than paper.  Real world gain on the helicals was nothing like the
paper gain.  The original gain formulas published for helicals were too
optomistic, and more modern formulas discount the gain by about 5dB.
Less another 3dB if working circular polarisation into linear
polarisation.

Implementaion losses probably crept in here too, but I did spend quite a
bit of time trying to get the helicals right.  Test paths from Gungahlin
to Black Mt and Gungahlin to Mt Ainslie came up OK.

I built a pair of 123x123mm biquads with 30mm skirts, as described at
http://www.trevormarshall.com/biquad.htm .  These perform very well, and
given the ease of construction, seem like an excellent choice for
starting out.  The biquads worked over the paths mentioned above too.
They also occupy about 1/250th the volume of the helical arrays.

I am taken by the slotted waveguides described at
http://www.trevormarshall.com/waveguides.htm . By flattening the
radiation pattern to a narrow area close to the horizon, these antennas
give reasonable gain over 180 or 360 degrees (depending upon the design)
WA FreeNet seems to be getting excellent results (25km paths between
omnis!) out of similar designs.  This morning I picked up the parts to
make four 16 slot (or 16+16 slot) waveguides.  Damage was around $150.
The major construction challenge seems to be cutting rectangular holes
in the aluminium.  Has anyone got any tips for doing this?  Alternately,
a waveguide design that allows for slots with curved ends would be nice
(easier to cut with a router)

All tips and pointers gladly accepted!

Lyle Williams
VK1XLW


---------
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au



---
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## 216. [ss] Proxim Symphony Gateway and external antenna?

From: "Marcelo Puhl" <mark@cpovo.net>
Date: Sat, 21 Dec 2002 09:24:27 -0200
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-111912-2002.12.21-06.10.00--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,

Is there any description on how to connect an external antenna
to a Proxim Symphony Gateway model 4930?

Thanks.

Mark - PY3SS

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 217. [ss] Slot Antenna for 2437 MHz SS

From: "John Champa" <k8ocl@hotmail.com>
Date: Sat, 21 Dec 2002 14:30:03 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: Darryl@radio-active.net.au, k8it@cac.net, microwaves@amrad.org,
n7hpr@tapr.org, rwmcgwier@comcast.net
Message-ID: <LYR6751-111953-2002.12.21-14.15.45--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Lyle,

Neil, K8IT, built one of the Trevor Marshall design slot antennas for the Livingston County HSMM Experimenters Team. It seems to work exceptionally well, too. However, it took two tries. The first had a few cutting errors, plus the wrong alloy for proper cutting.

We may have, or soon will, be posting details on the HSMM Webpage (www.arrl.org/hsmm).

They're getting 25 km...hmmm, very impressive!

Thanks, and 73 for wonderful holiday season,
John Champa - K8OCL
ARRL Chairman
HSMM Working Group
k8ocl@arrl.net

From: "TAPR Spread Spectrum Special Interest Group digest"
<ss@lists.tapr.org>
Reply-To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
To: "ss digest recipients" <ss@lists.tapr.org>
Subject: ss digest: December 20, 2002
Date: Sat, 21 Dec 2002 00:01:08 -0500

TAPR Spread Spectrum Special Interest Group Digest for Friday, December 20, 2002.

1. Antennas in the real world.

---

Subject: Antennas in the real world.
From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Fri, 20 Dec 2002 22:13:05 +1100
X-Message-Number: 1

>From wireless@lists.samba.org

Well, I ran around with two HUGE quad helicals experimenting with antenna performance. On paper, the 4x28 turn monster was ~27dBi and the 4x17 turn ~24dBi.

Paper is an exceptionally good propagation medium - I recommend it wholeheartedly. Unfortunately my radio waves had to get through air, rather than paper. Real world gain on the helicals was nothing like the paper gain. The original gain formulas published for helicals were too optomistic, and more modern formulas discount the gain by about 5dB. Less another 3dB if working circular polarisation into linear polarisation.

Implementaion losses probably crept in here too, but I did spend quite a bit of time trying to get the helicals right. Test paths from Gungahlin to Black Mt and Gungahlin to Mt Ainslie came up OK.

I built a pair of 123x123mm biquads with 30mm skirts, as described at
http://www.trevormarshall.com/biquad.htm .  These perform very well, and
given the ease of construction, seem like an excellent choice for
starting out.  The biquads worked over the paths mentioned above too.
They also occupy about 1/250th the volume of the helical arrays.

I am taken by the slotted waveguides described at
http://www.trevormarshall.com/waveguides.htm . By flattening the
radiation pattern to a narrow area close to the horizon, these antennas
give reasonable gain over 180 or 360 degrees (depending upon the design)
WA FreeNet seems to be getting excellent results (25km paths between
omnis!) out of similar designs.  This morning I picked up the parts to
make four 16 slot (or 16+16 slot) waveguides.  Damage was around $150.
The major construction challenge seems to be cutting rectangular holes
in the aluminium.  Has anyone got any tips for doing this?  Alternately,
a waveguide design that allows for slots with curved ends would be nice
(easier to cut with a router)

All tips and pointers gladly accepted!

Lyle Williams
VK1XLW


---
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au




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_____
The new MSN 8: smart spam protection and 3 months FREE*.
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http://www.hotmail.msn.com/cgi-bin/getmsg&HL=1216hotmailtaglines_smartspamprotection_3mf


---
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## 218. [ss] RIC Mod For External Antenna Jack

From: "John Champa" <k8ocl@hotmail.com>
Date: Sun, 22 Dec 2002 03:59:06 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: ekarlk@yahoo.com, mwilliams@esperion.com
Message-ID: <LYR6751-112044-2002.12.22-03.45.02--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Mark,

Ernst, K8EK, with the Livingston County HSMM Experimenters Team has
successfully installed an external antenna jack on what we call a RIC (Radio
Interface Cards), known commercially as PCMCIA Wireless LAN Adaptor Cards.
The gateways with integrated antennas have the same chip set, so the process
should be similar.  He may be able to help you with this modification.

Mark, AB8LN, also on the same team, has explored the inner workings of a
RIC, and he may have some helpful tips, too.  I have cc'd them both.

At the last team meeting, photos of these RIC internal (integrated) antennas
were taken, so it shouldn't be too long before details of such mods will be
available on the HSMM webpage  (www.arrl.org/hsmm).

Vy 73,
John - K8OCL

From: "TAPR Spread Spectrum Special Interest Group digest"
<ss@lists.tapr.org>
Reply-To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
To: "ss digest recipients" <ss@lists.tapr.org>
Subject: ss digest: December 21, 2002
Date: Sun, 22 Dec 2002 00:00:25 -0500

TAPR Spread Spectrum Special Interest Group Digest for Saturday, December
21, 2002.

1. Proxim Symphony Gateway and external antenna?
2. Slot Antenna for 2437 MHz SS

---

Subject: Proxim Symphony Gateway and external antenna?
From: "Marcelo Puhl" <mark@cpovo.net>
Date: Sat, 21 Dec 2002 09:24:27 -0200
X-Message-Number: 1

Hi,

Is there any description on how to connect an external antenna
to a Proxim Symphony Gateway model 4930?

Thanks.

Mark - PY3SS

---

Subject: Slot Antenna for 2437 MHz SS
From: "John Champa" <k8ocl@hotmail.com>
Date: Sat, 21 Dec 2002 14:30:03 -0500
X-Message-Number: 2

Lyle,

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plus the wrong alloy for proper cutting.

We may have, or soon will, be posting details on the HSMM Webpage
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They're getting 25 km...hmmm, very impressive!

Thanks, and 73 for wonderful holiday season,
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ARRL Chairman
HSMM Working Group
k8ocl@arrl.net

From: "TAPR Spread Spectrum Special Interest Group digest"
<ss@lists.tapr.org>
Reply-To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
To: "ss digest recipients" <ss@lists.tapr.org>
Subject: ss digest: December 20, 2002
Date: Sat, 21 Dec 2002 00:01:08 -0500

TAPR Spread Spectrum Special Interest Group Digest for Friday, December 20,
2002.

1. Antennas in the real world.

---

Subject: Antennas in the real world.
From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Fri, 20 Dec 2002 22:13:05 +1100
X-Message-Number: 1

>From wireless@lists.samba.org

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All tips and pointers gladly accepted!

Lyle Williams
VK1XLW

---
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

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http://www.hotmail.msn.com/cgi-bin/getmsg&HL=1216hotmailtaglines_advancedjmf_3mf

---
You are currently subscribed to ss as: lyris.ss@tapr.org
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## 219. [ss] Linksys 802.11b signal amp

From: "Stephen Nichols" <sgnichols@mindspring.com>
Date: Sun, 22 Dec 2002 20:56:20 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-112136-2002.12.22-22.41.45--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

http://www.linksys.com/splash/wsb24_splash.asp

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 220. [ss] Re: ASIAN 802.11b Bidirectional signal amp

From: "Pinfold" <pinfold@xtra.co.nz>
Date: Tue, 24 Dec 2002 08:06:42 +1300
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-112205-2002.12.23-13.54.29--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Anybody intrested in these Bidirectional power amps .... I would only
bring in the 1W (+30dBm) unit,??? price is US $350 each ..... power up
coax , Cheers MIKE ZL1BTB

Asian data supplied

Frequency Range 2400 ~ 2500 MHz
Bi-Directional Tx/ Rx Signal Mode DSSS
Switching Time < 1 micro Sec.
< 2 micro Sec.
Tx Power ( dBm ) 500 mW / + 27 dBm or 1 W
/ + 30dBm
Tx input Power ( dBm ) 0 dBm ( Min. ) to 20 dBm ( Max. )
Receiver Gain ( dB ) 20 dB typical
Max. Rx Input Power 5 dBm ( 3 mW )
Gain Flatness +/- 1 dB ( Over operating range )
Connector N Type Female for both side ( SMA is also available )
Lightning? static Protected 1/4 wave-length stub
Supply Voltage DC 9 V
Power Consumption 700 mA @ DC 9V 850 mA @ DC 9V
Operating
-30 deg C to + 70 deg C
Weight
357.5 g

Available in SMA and top mounted receive connector !

----- Original Message -----
From: Stephen Nichols <sgnichols@mindspring.com>
To: TAPR Spread Spectrum Special Interest Group <ss@lists.tapr.org>
Sent: Monday, December 23, 2002 4:56 PM
Subject: [ss] Linksys 802.11b signal amp

> http://www.linksys.com/splash/wsb24_splash.asp
>

>
>
>
> ---
> You are currently subscribed to ss as: PINFOLD@XTRA.CO.NZ
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>
>


---
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## 221. [ss] FW: [IP] The Pedal Powered Internet

From: "Steve Stroh" <lists@strohpub.com>
Date: Mon, 23 Dec 2002 12:45:13 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-112212-2002.12.23-15.32.50--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>From Dave Farber's Interesting People (IP) mailing list.


Thanks,

Steve N8GNJ

--
Steve Stroh   steve@strohpub.com  425-481-0600

-----Original Message-----
From: owner-ip@v2.listbox.com [mailto:owner-ip@v2.listbox.com]On Behalf Of
Dave Farber
Sent: Sunday, December 15, 2002 12:17
To: ip
Subject: [IP] The Pedal Powered Internet



------ Forwarded Message
From: "Lena M. Diethelm" <lena@numbershuffler.com>
Date: Sun, 15 Dec 2002 12:07:39 -0800
To: dave@farber.net, lena@numbershuffler.com
Cc: lee@nerditude.com
Subject: for IP-The Pedal Powered Internet


Dave,

Lee Felsenstein, MC of the Homebrew Computer Club and designer of the SOL-20
and Osborne 1, (full disclosure:  my SO), sits on the other side of a wall
of bookcases which separates my tax practice from his engineering shop,
where, in the past year, he invented, designed and continues to develop the
"Jhai Computer" mentioned in the NY Times Magazine article as one of the
Best Ideas of 2002. (See www.jhai.org <http://www.jhai.org/> ).

The backstory to this is fascinating. Once more connecting technology and
the Vietnam War, the two Lees, (Felsenstein & Lee Thorn, chair of the Jhai
Foundation), reconnected at the 30th Reunion of Project One (Felsenstein,
see Steven Levy's book, _Hackers_ re: Project One)
http://www.stanford.edu/group/mmdd/SiliconValley/Levy/Hackers.1984.book/Chap
ter8.
<http://www.stanford.edu/group/mmdd/SiliconValley/Levy/Hackers.1984.book/Cha
pter8.html> html
<http://www.stanford.edu/group/mmdd/SiliconValley/Levy/Hackers.1984.book/Cha
pter8.html> which was held concurrently with a reunion of Vietnam Vets
Against the War (Thorn).

Long fascinated with strengthening and rebuilding villages in industrial
society, Felsenstein, was immediately interested in connecting these Laotian
villages to the Internet.  Forget going "off the grid", these villages have
never even been on the grid. The system had to be low cost since the
villages and Jhai foundation had little money, waterproof due to high
humidity and Monsoon Season and low maintenance. Satellite connection was
quickly ruled out as too expensive. To keep costs low, the software involved
is all Open Source.

Truly a global effort, the people, the parts and the small amount of funding

so far come from all over the world. The pedal powered bicycles are
manufactured in India. To date, professional expertise has come from the US,
Germany, Australia, Laos and Sweden.

More help and funding are needed.


http://www.nytimes.com/2002/12/15/magazine/15PEDA.
<http://www.nytimes.com/2002/12/15/magazine/15PEDA.html> html

 <http://www.nytimes.com/2002/12/15/magazine/15PEDA.html> <snip>

With a level of ingenuity that would have impressed Robinson Crusoe, it
turns out. Thorn's group is cobbling together five inexpensive computers
with out-of-date microchips. To link these computers to the Internet,
they're using cheap wireless broadcasting stations -- much like the ones
that you can buy at Radio Shack for a few hundred dollars. A tower located
in a Laotian city will tap into the Net and the local phone system, then
blast the signal toward the villages nine miles away. A second tower will
catch that signal and route it wirelessly to each village, like a hub with
spokes. No expensive satellites or copper-wire phone lines needed. And as
for electricity? That pedal-power technology is straight out of ''Gilligan's
Island.''

<snip>

---
---
Lena M. Diethelm, EA -The Numbershuffler-PO Box 60267-Palo Alto, CA 94306
vox: 650-322-8680 -fax: 650-322-2881- lena@numbershuffler.com




---
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## 222. [ss] Re: Linksys 802.11b signal amp

From: Stewart Teaze <horseshoe7@yahoo.com>
Date: Mon, 23 Dec 2002 23:56:07 -0800 (PST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-112255-2002.12.24-02.41.52--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The obvious market for this product is to the general public, to "increase their hub's reach"... and for
 this application, this product is Snake Oil.  To effectively increase communications range using
increased transmitter power alone, you need to increase power on both sides of the link.
The proper way to increase hub range is thru gain antennas.
- Stewart
... and please, I understand that this product would help those installations using multiple hubs
configured as repeaters(if all the devices included the power increase) - but this is NOT the obvious
market that Linksys is shooting for.
 Stephen Nichols <sgnichols@mindspring.com> wrote:http://www.linksys.com/splash/wsb24_splash.asp




---
You are currently subscribed to ss as: horseshoe7@yahoo.com
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---
Do you Yahoo!?
Yahoo! Mail Plus - Powerful. Affordable. Sign up now

## 223. [ss] Re: Linksys 802.11b signal amp

From: Walt DuBose <dubose@texas.net>
Date: Tue, 24 Dec 2002 08:14:34 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-112278-2002.12.24-09.00.17--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Stewart Teaze wrote:
>
> The obvious market for this product is to the general public, to "increase their hub's reach"... and
> for this application, this product is Snake Oil.  To effectively increase communications range using

> increased transmitter power alone, you need to increase power on both sides of the link.
>
> The proper way to increase hub range is thru gain antennas.
>
>- Stewart >
>
>... and please, I understand that this product would help those installations using multiple hubs
> configured as repeaters(if all the devices included the power increase) - but this is NOT the obvious
> market that Linksys is shooting for.
>
>  Stephen Nichols <sgnichols@mindspring.com> wrote:
>
>        http://www.linksys.com/splash/wsb24_splash.asp
>

It is only 200 mw output, just 3 db gain.  A 9 db antenna hung
from the ceiling would do more.

Walt/K5YFW

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 224. [ss] Re: Linksys 802.11b signal amp <LYR27907-112255-2002.12.24-02.41.52--rwmcgwier#comcast.net@lists.tapr.org>

From: Robert McGwier <rwmcgwier@comcast.net>
Date: Tue, 24 Dec 2002 09:51:58 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-112287-2002.12.24-09.37.46--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Actually,  this is almost true.   I have two laptops operating in my house.
The access point had no  trouble hearing them to a nearly perfect level
but the laptops, with their small poor antennas, had trouble in certain
spots on my property.  The amps 3 dB increase in omni-drectional
power made quite the difference in link stability to these laptops, they
now regularly maintain 11 mbps even out in my back yard.

My statement about the laptops having trouble hearing, while my
access point did not,  are based on the access point statistics (packets,
repeated packets, etc.) and on the signal quality meter available on
the laptops.  It definitely made a difference here.

Bob
N4HY

  -----Original Message-----
  From: bounce-ss-27907@lists.tapr.org
[mailto:bounce-ss-27907@lists.tapr.org]On Behalf Of Stewart Teaze
  Sent: Tuesday, December 24, 2002 2:56 AM
  To: TAPR Spread Spectrum Special Interest Group
  Subject: [ss] Re: Linksys 802.11b signal amp


  The obvious market for this product is to the general public, to "increase
their hub's reach"... and for this application, this product is Snake Oil.
To effectively increase communications range using increased transmitter
power alone, you need to increase power on both sides of the link.

  The proper way to increase hub range is thru gain antennas.

  - Stewart

  ... and please, I understand that this product would help those
installations using multiple hubs configured as repeaters(if all the devices
included the power increase) - but this is NOT the obvious market that
Linksys is shooting for.

   Stephen Nichols <sgnichols@mindspring.com> wrote:

    http://www.linksys.com/splash/wsb24_splash.asp



    ---
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---
--
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## 225. [ss] Re: Linksys 802.11b signal amp <LYR27907-112255-2002.12.24-02.41.52--rwmcgwier#comcast.net@lists.tapr.org>

From: Stewart Teaze <horseshoe7@yahoo.com>
Date: Tue, 24 Dec 2002 09:01:00 -0800 (PST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-112298-2002.12.24-11.46.45--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Dude, the "small poor antennas" on your laptops "work both ways" (it attenuates the signal at both ends)... if you got an increase in range by boosting the power on your Access Point, the only thing that proves is that the laptops were providing a significantly stronger signal than your access point! I suppose this is just another condemnation of the Linksys router... For the money you end up spending for the "Linksys combo" (AP and amp), you would be better off getting a higher quality access point from the get-go - or, better yet, go with a high-quality router AND high-gain antennas (high gain antennas, unlike amps, DO work both ways).
... and please, don't be fooled by manufacturers' advertised specs - they are all marketing lies anyway.
Robert McGwier <rwmcgwier@comcast.net> wrote:Actually, this is almost true. I have two laptops operating in my house.The access point had no trouble hearing them to a nearly perfect levelbut the laptops, with their small poor antennas, had trouble in certainspots on my property. The amps 3 dB increase in omni-drectionalpower made quite the difference in link stability to these laptops, theynow regularly maintain 11 mbps even out in my back yard. My statement about the laptops having trouble hearing, while myaccess point did not, are based on the access point statistics (packets,repeated packets, etc.) and on the signal quality meter available onthe laptops. It definitely made a difference here. BobN4HY -----Original Message-----
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Do you Yahoo!?
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## 226. [ss] [Fwd: Spectrum Wants to Be Free]

From: "Eric S. Johansson" <esj@harvee.billerica.ma.us>
Date: Tue, 24 Dec 2002 12:06:50 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-112299-2002.12.24-11.52.37--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Status: RO
From: "Duncan Goldie-Scot" <dgs@live.co.uk>
To: "R. A. Hettinga" <rah@shipwright.com>

Subject: Spectrum Wants to Be Free
Date: Mon, 23 Dec 2002 14:14:18 -0000

http://www.wired.com/wired/archive/11.01/view.html

Issue 11.01 - January 2003

# Spectrum Wants to Be Free

## Never pay for phone, cable, or net access again

By Kevin Werbach

A revolution is brewing in wireless. In an industry speech in October, FCC chair Michael Powell expressed support for a radical idea called open spectrum that could transform the communications landscape as profoundly as the Internet ever did. If it works, you'll never pay for telephone, cable, or Net access again.

Open spectrum treats the airwaves as a commons, shared by all. It's the brainchild of engineers, activists, and scholars such as wireless gadfly Dewayne Hendricks, former Lotus chief scientist David Reed, and NYU law professor Yochai Benkler. The idea is that smart devices cooperating with one another function more effectively than huge proprietary communications networks. The commons can be created through distinct, unlicensed "parks" or through "underlay" technologies, such as ultrawideband, that are invisible to licensed users in the same band.

In an open spectrum world, wireless transmitters would be as ubiquitous as microprocessors: in televisions, cars, public spaces, handheld devices, everywhere. They would tune themselves to free spectrum and self-assemble into networks. Anyone could become a radio broadcaster reaching millions. Phone calls would rarely need to pass through central networks; they would be handed off and relayed across devices, for free or nearly so. Businesses would track far-flung assets in real time via embedded sensors. Big TV networks and cable operators would lose their hammerlock control over media distribution. Entrepreneurs would develop as yet undreamed of applications that we can't live without. It happens any time open platforms emerge - think eBay and Amazon.com.

The revolution has already started. Wi-Fi, a runaway success, uses a narrow slice of spectrum that is already "open." Wi-Fi is a shot across the bow, much the way the Arpanet served as a proving ground for the commercial Internet. As ever, Moore's law is on the side of the technology upstart. Radio waves resemble ripples on a pond rather than swimmers in a pool - they pass through one another. Distinguishing them can be difficult, but it's not beyond the talents of today's radio engineers.

When spectrum licensing was established in the early 20th century, radios were primitive, as was the regulatory model used to govern them. To be heard, broadcasters needed an exclusive slice of spectrum. Today, however, digital technologies let many users occupy the same frequency at the same time. As the FCC's Powell points out, "Modern technology has fundamentally changed the nature and extent of spectrum use." Today's devices employ advanced digital signal processing and other techniques, and they're smart enough to coexist without interference.

Wi-Fi's success is attracting capital and encouraging research into the open spectrum idea. Last year, over the bitter opposition of entrenched spectrum holders, the FCC granted limited approval for ultrawideband. Within the next year, half of all laptops used at work are expected to have wireless connections. And within four years, Intel hopes to incorporate transmitters into all of its processor chips.

Standing in the way of open spectrum are incumbent licensees, government agencies nervous about interference, and economists entranced by the airwave auction market.

Yet the spectrum auction markets are not free markets. Each buyer gains what is, in effect, a little monopoly - which, in the aggregate, stifles communications progress just as well as one big monopoly.

Governments have long treated the airwaves like real estate to be handed out to favored operators or auctioned for huge sums. And like real estate, spectrum makes people do stupid things. The English auctions for third-generation mobile phone licenses in 2000 left the winners choked with debt. In the US, the battle over bankrupt NextWave's licenses and the hyped

transition to digital TV are multibillion-dollar fiascoes.

The problem here is not the market, but the outdated real-estate metaphor. Yet, if spectrum was seen as a commons that could be shared by all, then builders of wireless devices would rush to fill it, unleashing market forces to everyone's benefit. It's already happened with Wi-Fi: A billion-dollar industry emerged overnight with no protection against interference. And Wi-Fi is only the beginning.

---

Independent analyst Kevin Werbach (kevin@werbach.com) is the former FCC counsel for new technology policy.

--- end forwarded text

---
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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 227. [ss] RE: [Fwd: Spectrum Wants to Be Free]

From: wchast@utilpart.com
Date: Tue, 24 Dec 2002 12:35:50 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-112300-2002.12.24-12.23.37--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> -----Original Message-----
> From: Eric S. Johansson [mailto:esj@harvee.billerica.ma.us]
> Sent: Tuesday, December 24, 2002 12:07 PM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] [Fwd: Spectrum Wants to Be Free]
>

> Open spectrum treats the airwaves as a commons, shared by
> all.

Do you think we could every get the repeater people to understand that one? Hey, TDMA would be a big step forward if the radio manufacturers would ever put it into our radios. The commericial side has it in all flavors from 2 channels to 8 (I think IDEN is now 8 channels in a 25Khz channel)

**********
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## 228. [ss] Re: [Fwd: Spectrum Wants to Be Free]

From: Walt DuBose <dubose@texas.net>
Date: Tue, 24 Dec 2002 13:13:22 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-112309-2002.12.24-13.59.05--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

"Eric S. Johansson" wrote:
>
> Status: RO

> From: "Duncan Goldie-Scot" <dgs@live.co.uk>
> To: "R. A. Hettinga" <rah@shipwright.com>
> Subject: Spectrum Wants to Be Free
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<snip>

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home and office as the primary means of communications.
In instances where wireless is used today, in time I
believe it too will be replaced by fiber.

Ultimately, wireless will be for mobile use only.

I do see wireless moving to higher frequencies tho.

This (fiber) is the true profit business model...
not wireless.

Walt/K5YFW

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## 229. [ss] Re: Linksys 802.11b signal amp <LYR27907-112255-2002.12.24-02.41.52--rwmcgwier#comcast.net@lists.tapr.org> <LYR27907-112298-2002.12.24-11.46.45--rwmcgwier#comcast.net@lists.tapr.org>

From: Robert McGwier <rwmcgwier@comcast.net>
Date: Tue, 24 Dec 2002 14:44:32 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-112310-2002.12.24-14.30.19--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Stewart:

For whatever reason (I won't guess), the receiver and antenna situation in
the access point is better able to
handle the small signal out of the laptop, but the laptop receiver cannot do
the reciprocal and the RESULTS say this
is so.  I can repeat these experiments perfectly and have done so
repeatedly.  In NJ, when you buy
a thing like this amplifier, the consumer protection laws allow you to
return "if it does not work in your
application".  I would have returned it had I not been able to repeat this
experiment ad nauseum at
every point on my property.

Your suggestion for my application won't quite fit my needs.  I am not
interested in point to point communications,
and I am not interested in putting up a larger, more efficient omni anywhere
outside my office.  I am interested
in my son's laptop working wherever he is, and for mine to work wherever it
is on my property (even if I am being
a lazy bum surfing the web out back by the pool or on the back porch).  For
me, the increased pleasure of having
this be reliable was worth the cost without having to run a single line of
coax or figuring out how and where
to mount the antenna.  The amplifier solved my problem and I can prove it.

Seasons Greetings to one and all,
Bob McGwier
N4HY

  --- --Original Message-----
  From: bounce-ss-27907@lists.tapr.org
[mailto:bounce-ss-27907@lists.tapr.org]On Behalf Of Stewart Teaze
  Sent: Tuesday, December 24, 2002 12:01 PM

To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] Re: Linksys 802.11b signal amp
<LYR27907-112255-2002.12.24-02.41.52--rwmcgwier#comcast.net@lists.tapr.org>

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... and please, don't be fooled by manufacturers' advertised specs - they are all marketing lies anyway.

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The access point had no trouble hearing them to a nearly perfect level
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now regularly maintain 11 mbps even out in my back yard.

My statement about the laptops having trouble hearing, while my
access point did not, are based on the access point statistics (packets,
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The proper way to increase hub range is thru gain antennas.

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## 230. [ss] Re: [Fwd: Spectrum Wants to Be Free] <LYR27907-112309-2002.12.24-13.59.05--rwmcgwier#comcast.net@lists.tapr.org>

From: Robert McGwier <rwmcgwier@comcast.net>
Date: Tue, 24 Dec 2002 15:06:21 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-112314-2002.12.24-14.52.08--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Walt:

I really disagree with this. I believe the
smaller cost of infrastructure will cause
wireless to spring to the fore bringing
broadband access to the web and other services
in small communities across America very
quickly thanks to the vision of people
like Hendricks and others.  When the average
Jane in a town of 3000 can have broadband
access without a company having to lay a
cable to her house,  the picture becomes
clearer I think.  We need more small company
entrepreneurs to spring up and decide to
do this but it will happen.

May I suggest a book that I am reviewing for
QST (though they didn't ask me to do this one)?
It is "Building Wireless Community Networks" by Rob
Flickenger  (O'Reilly).  The Part 15 community,
though driving me a bit crazy at times, has
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and if we can just tame their vision to allow
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Flickenger built just such a network in California.
He has shared his experiences with us in this
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laying tens of billions of dollars of dark fiber
but I think it will lead us out of the tech
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not, I will be 70 years old before I can retire rather
than the 62 I was planning on!

Bob


-----Original Message-----
From: bounce-ss-27907@lists.tapr.org
[mailto:bounce-ss-27907@lists.tapr.org]On Behalf Of Walt DuBose
Sent: Tuesday, December 24, 2002 2:13 PM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] Re: [Fwd: Spectrum Wants to Be Free]


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> Status: RO
> From: "Duncan Goldie-Scot" <dgs@live.co.uk>
> To: "R. A. Hettinga" <rah@shipwright.com>
> Subject: Spectrum Wants to Be Free
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## 231. [ss] Re: Linksys 802.11b signal amp <LYR27907-112255-2002.12.24-02.41.52--rwmcgwier#comcast.net@lists.tapr.org> <LYR27907-112298-2002.12.24-11.46.45--rwmcgwier#comcast.net@lists.tapr.org>

From: "jeff millar" <jeff@wa1hco.mv.com>
Date: Tue, 24 Dec 2002 15:25:51 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-112316-2002.12.24-15.11.34--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The access point has diversity receive (note the two antennas) to minimize the effects of multipath. That's not the same as pattern gain. When one path is sitting in a deep fade, the other path is likely not in a fade. Since fades are deep but very narrow, two antennas a few wavelengths apart really help.
Diversity probably improves receive at the AP by 3-6 dB...allowing for more transmit power and still maintain a balanced link.
----- Original Message -----
From: Robert McGwier
To: TAPR Spread Spectrum Special Interest Group
Sent: Tuesday, December 24, 2002 2:44 PM
Subject: [ss] Re: Linksys 802.11b signal amp
<LYR27907-112255-2002.12.24-02.41.52--rwmcgwier#comcast.net@lists.tapr.org>
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## 232. [ss] Re: [Fwd: Spectrum Wants to Be Free] <LYR27907-112309-2002.12.24-13.59.05--rwmcgwier#comcast.net@lists.tapr.org>

From: Walt DuBose <dubose@texas.net>
Date: Tue, 24 Dec 2002 14:38:05 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-112317-2002.12.24-15.23.47--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Bob,

I am reading the O'Reilly now and use the on-line pages a lot.

There are a lot of problems in some areas of the country, like
West Texas. Lots of places there still don't have cellphone

coverage and the closest cell is 10-20 miles away.

We also have places within 20 miles of downtown San Antonio
that still don't have electricity; however, a cable company is
laying fiber.

I look for multi-gigabit bandwidth to homes.  The question is
can wireless meet the need?

I'm not talking about the next 5-10 years but out 10-25 years.

This is not to say that technology can't support the small
communities; but, I see even greater need for communications
in the future...far beyond simple phone, TV, Internet...a whole
new "data requirement".

Walt


Robert McGwier wrote:
>
> Walt:
>
> I really disagree with this. I believe the
> smaller cost of infrastructure will cause
> wireless to spring to the fore bringing
> broadband access to the web and other services
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> doldrums in the next few years.  I hope so, 'cause if
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> Bob
>
> -----Original Message-----
> From: bounce-ss-27907@lists.tapr.org
> [mailto:bounce-ss-27907@lists.tapr.org]On Behalf Of Walt DuBose
> Sent: Tuesday, December 24, 2002 2:13 PM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: [Fwd: Spectrum Wants to Be Free]
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> "Eric S. Johansson" wrote:
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## 233. [ss] Re: Linksys 802.11b signal amp <LYR27907-112255-2002.12.24-02.41.52--rwmcgwier#comcast.net@lists.tapr.org> <LYR27907-112298-2002.12.24-11.46.45--rwmcgwier#comcast.net@lists.tapr.org>

From: Stewart Teaze <horseshoe7@yahoo.com>
Date: Tue, 24 Dec 2002 12:45:28 -0800 (PST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-112318-2002.12.24-15.31.08--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Why would you run coax for any distance at all? That would be the worst thing you could do when adding antennas at these frequencies... keep the run length short, as transmission line loss at 2.4Ghz is significant.
Anyway, the results you are seeing can be explained by 1 of 3 possibilites:
1) The signal generated by the original (unamplified) AP is of significantly lower quality than that of the laptops'.
2) The receivers in the laptops are of significantly lower quality than that in the AP.
3) A combination of 1) and 2)
If it is case 1), then you probably would have been better off going with a higher-quality Access Point from the get-go (rather than a combo AP/Amp). If it is case 2), then the amplifier has utility for your particular application; although gain antennas would have worked just as well in your situation, and worked better in the future, if you acquire remote devices with better receiver quality.
In any event, if you require an amplifier at your AP to increase your communications range, you definately have a quality problem (or problems) somewhere in your system.
Improving communication range by increasing signal strength on only one side of a link does not usually make sense.
I'm curious... what version of Linksys AP do you have? Earlier models were notorious for their poor quality transmissions. Rather than "patching up" a bad AP with an amplifier, you might have even been able to produce the same improved results by replacing the old AP with a new model AP by the same manufacturer.
The reason I'm going into this, is because the amplifier "road" is typically a slippery slope - and it is best that the manufacturers NOT be rewarded for producing crap like this. They should be producing BALANCED quality devices (TPO, receiver quality, etc) all the way around, from the get-go.
Robert McGwier <rwmcgwier@comcast.net> wrote:Stewart: For whatever reason (I won't guess), the receiver and antenna situation in the access point is better able tohandle the small signal out of the laptop, but the laptop receiver cannot do the reciprocal and the RESULTS say thisis so. I can repeat these experiments perfectly and have done so repeatedly. In NJ, when you buya thing like this amplifier, the consumer protection laws allow you to return "if it does not work in yourapplication". I would have returned it had I not been able to repeat this experiment ad nauseum atevery point on my property. Your suggestion for my application won't quite fit my needs. I am not interested in point to point communications,and I am not interested in putting up a larger, more efficient omni anywhere outside my office. I am interestedin my son's laptop working wherever he is, and for mine to work wherever it is on my property (even if I am beinga lazy bum surfing the web out back by the pool or on the back porch). For me, the increased pleasure of havingthis be reliable was worth the cost without having to run a single line of coax or figuring out how and whereto mount the antenna. The amplifier solved my problem and I can prove it. Seasons Greetings to one and all,Bob McGwierN4HY --- --Original Message-----

From: bounce-ss-27907@lists.tapr.org [mailto:bounce-ss-27907@lists.tapr.org]On Behalf Of Stewart Teaze
Sent: Tuesday, December 24, 2002 12:01 PM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] Re: Linksys 802.11b signal amp
<LYR27907-112255-2002.12.24-02.41.52--rwmcgwier#comcast.net@lists.tapr.org>

Dude, the "small poor antennas" on your laptops "work both ways" (it attenuates the signal at both ends)... if you got an increase in range by boosting the power on your Access Point, the only thing that proves is that the laptops were providing a significantly stronger signal than your access point! I suppose this is just another condemnation of the Linksys router... For the money you end up spending for the "Linksys combo" (AP and amp), you would be better off getting a higher quality access point from the get-go - or, better yet, go with a high-quality router AND high-gain antennas (high gain antennas, unlike amps, DO work both ways).
... and please, don't be fooled by manufacturers' advertised specs - they are all marketing lies anyway.

Robert McGwier <rwmcgwier@comcast.net> wrote: Actually, this is almost true. I have two laptops operating in my house.The access point had no trouble hearing them to a nearly perfect levelbut the laptops, with their small poor antennas, had trouble in certainspots on my property. The amps 3 dB increase in omni-drectionalpower made quite the difference in link stability to these laptops, theynow regularly maintain 11 mbps even out in my back yard. My statement about the laptops having trouble hearing, while myaccess point did not, are based on the access point statistics (packets,repeated packets, etc.) and on the signal quality meter available onthe laptops. It definitely made a difference here. BobN4HY -----Original Message-----
From: bounce-ss-27907@lists.tapr.org [mailto:bounce-ss-27907@lists.tapr.org]On Behalf Of Stewart Teaze
Sent: Tuesday, December 24, 2002 2:56 AM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] Re: Linksys 802.11b signal amp

The obvious market for this product is to the general public, to "increase their hub's reach"... and for this application, this product is Snake Oil. To effectively increase communications range using increased transmitter power alone, you need to increase power on both sides of the link.
The proper way to increase hub range is thru gain antennas.
- Stewart
... and please, I understand that this product would help those installations using multiple hubs configured as repeaters(if all the devices included the power increase) - but this is NOT the obvious market that Linksys is shooting for.
Stephen Nichols <sgnichols@mindspring.com> wrote: http://www.linksys.com/splash/wsb24_splash.asp

---
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## 234. [ss] Re: Linksys 802.11b signal amp <LYR27907-112255-2002.12.24-02.41.52--rwmcgwier#comcast.net@lists.tapr.org> <LYR27907-112298-2002.12.24-11.46.45--rwmcgwier#comcast.net@lists.tapr.org>

From: Stewart Teaze <horseshoe7@yahoo.com>
Date: Tue, 24 Dec 2002 13:12:12 -0800 (PST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-112320-2002.12.24-15.57.57--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thanks, that makes sense... Also, after I thought about this some more, it also makes sense for most Internet applications, due to the fact that most of the traffic comes from the Access Point - so it is more important that the AP end of the link transmit with more signal strength.
Based on these two facts, I rescind my criticisms of the Linksys power amplifier.
- Stewart
jeff millar <jeff@wa1hco.mv.com> wrote:The access point has diversity receive (note the two antennas)

to minimize the effects of multipath.  That's not the same as pattern gain.  When one path is sitting in a deep fade, the other path is likely not in a fade.  Since fades are deep but very narrow, two antennas a few wavelengths apart really help.  Diversity probably improves receive at the AP by 3-6 dB...allowing for more transmit power and still maintain a balanced link.----- Original Message ----- From: Robert McGwier To: TAPR Spread Spectrum Special Interest Group Sent: Tuesday, December 24, 2002 2:44 PMSubject: [ss] Re: Linksys 802.11b signal amp <LYR27907-112255-2002.12.24-02.41.52--rwmcgwier#comcast.net@lists.tapr.org> <LYR27907-112298-2002.12.24-11.46.45--rwmcgwier#comcast.net@lists.tapr.org> Stewart: For whatever reason (I won't guess), the receiver and antenna situation in the access point is better able tohandle the small signal out of the laptop, but the laptop receiver cannot do the reciprocal and the RESULTS say thisis so.  I can repeat these experiments perfectly and have done so repeatedly.  In NJ, when you buya thing like this amplifier, the consumer protection laws allow you to return "if it does not work in yourapplication".  I would have returned it had I not been able to repeat this experiment ad nauseum atevery point on my property.

---
Do you Yahoo!?
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## 235. [ss] Mailbox Overflow

From: k2pat@webtv.net (Pat Howard)
Date: Wed, 25 Dec 2002 10:08:35 -0500 (EST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-112386-2002.12.25-09.54.20--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Someone is including HTML attachments instead of links in their replies.
Please stop including redundant attachments in your replies.  My mailbox
overflows with multiple copies of the same needless attachments and I
must delete the TAPR stuff just to have space for incoming mail.

I thought the rules for posting here were meant to prevent this
overflow.

Pat

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 236. [ss] Re: [Fwd: Spectrum Wants to Be Free] <LYR27907-112309-20 02.12.24-13.59.05--rwmcgwier#comcast.net@lists.tapr.org>

From: "Hampton, Rickey L." <RHAMPTON@PARTNERS.ORG>
Date: Wed, 25 Dec 2002 13:51:44 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-112405-2002.12.25-13.37.30--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Lots-O-Luck!  I was told not long ago by a gent using COTS 802.11b stuff
that his Part 15 equipment would not be shut down should it interfere with
amateur operations.  Why, you may wonder?  Because, "The FCC isn't going to
kill a billion dollar industry just for ham radio!"

-----Original Message-----
From: Robert McGwier [mailto:rwmcgwier@comcast.net]

May I suggest a book that I am reviewing for
QST (though they didn't ask me to do this one)?
It is "Building Wireless Community Networks" by Rob
Flickenger  (O'Reilly).  The Part 15 community,
though driving me a bit crazy at times, has
really become an exciting experimentation frontier
and if we can just tame their vision to allow
for the fact that others want the same spectrum,
we can all benefit.

---
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## 237. [ss] Re: Linksys 802.11b signal am.org>

From: "Greg Ansley" <gja@ansley.com>
Date: Wed, 25 Dec 2002 17:00:13 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-112417-2002.12.25-16.46.20--lyris.ss#tapr.org@lists.tapr.org>

The issue is not differential quality of transceivers on the link, it is that the antenna on the laptop end is stuck in the RF noise of the laptop.

The amplifier is BALANCING the signal to noise ratio on the link by overcoming the increased local noise at the laptop's receiver.

The access point typically has much better shielding at the frequency of interest and has an antenna that is separated from the source of the noise by several inches.

Try using an external antenna on the laptop end of the link and move it around the area of the laptop and you will see significant (as much as 10db in some cases) changes in the laptop's receive S/N. Most of this difference is a change in the noise level with a smaller contribution attributable to higher receive signal strength in some positions. The PCMIA slot is often a weak spot for RFI.

The amplifier is much more convenient than an external antenna on the laptop!

As far points 1 & 2 on every AP that I have examined (3 different manufactures) the AP uses a stock PCMCIA 802.11b card with an external antenna. Don't know what the Linksys is like internally, though.

Greg Ansley
KB4R
  ----- Original Message -----
  From: Stewart Teaze
  To: TAPR Spread Spectrum Special Interest Group
  Sent: Tuesday, December 24, 2002 3:45 PM
  Subject: [ss] Re: Linksys 802.11b signal amp
<LYR27907-112255-2002.12.24-02.41.52--rwmcgwier#comcast.net@lists.tapr.org>
<LYR27907-112298-2002.12.24-11.46.45--rwmcgwier#comcast.net@lists.tapr.org>

  Why would you run coax for any distance at all?  That would be the worst thing you could do when adding antennas at these frequencies... keep the run length short, as transmission line loss at 2.4Ghz is significant.

  Anyway, the results you are seeing can be explained by 1 of 3 possibilites:

  1) The signal generated by the original (unamplified) AP is of significantly lower quality than that of the laptops'.

  2) The receivers in the laptops are of significantly lower quality than that in the AP.

  3) A combination of 1) and 2)

  If it is case 1), then you probably would have been better off going with a higher-quality Access Point from the get-go (rather than a combo AP/Amp).  If it is case 2), then the amplifier has utility for your particular application; although gain antennas would have worked just as well in your situation, and worked better in the future, if you acquire remote devices with better receiver quality.

  In any event, if you require an amplifier at your AP to increase your communications range, you definately have a quality problem (or problems) somewhere in your system.

  Improving communication range by increasing signal strength on only one side of a link does not usually make sense.

  I'm curious... what version of Linksys AP do you have?  Earlier models were notorious for their poor quality transmissions.  Rather than "patching up" a bad AP with an amplifier, you might have even been able to produce the same improved results by replacing the old AP with a new model AP by the same manufacturer.

  The reason I'm going into this, is because the amplifier "road" is typically a slippery slope - and it is best that the manufacturers NOT be rewarded for producing crap like this.  They should be producing BALANCED quality devices (TPO, receiver quality, etc) all the way around, from the get-go.

   Robert McGwier <rwmcgwier@comcast.net> wrote:

    Stewart:

    For whatever reason (I won't guess), the receiver and antenna situation in the access point is better able to
    handle the small signal out of the laptop, but the laptop receiver cannot do the reciprocal and the RESULTS say this
    is so.  I can repeat these experiments perfectly and have done so repeatedly.  In NJ, when you buy
    a thing like this amplifier, the consumer protection laws allow you to return "if it does not work in your
    application".  I would have returned it had I not been able to repeat this experiment ad nauseum at
    every point on my property.

    Your suggestion for my application won't quite fit my needs.  I am not interested in point to point

communications,
    and I am not interested in putting up a larger, more efficient omni anywhere outside my office.  I am interested
    in my son's laptop working wherever he is, and for mine to work wherever it is on my property (even if I am being
    a lazy bum surfing the web out back by the pool or on the back porch).  For me, the increased pleasure of having
    this be reliable was worth the cost without having to run a single line of coax or figuring out how and where
    to mount the antenna.  The amplifier solved my problem and I can prove it.

    Seasons Greetings to one and all,
    Bob McGwier
    N4HY

      --- --Original Message-----
      From: bounce-ss-27907@lists.tapr.org [mailto:bounce-ss-27907@lists.tapr.org]On Behalf Of Stewart Teaze
      Sent: Tuesday, December 24, 2002 12:01 PM
      To: TAPR Spread Spectrum Special Interest Group
      Subject: [ss] Re: Linksys 802.11b signal amp
<LYR27907-112255-2002.12.24-02.41.52--rwmcgwier#comcast.net@lists.tapr.org>

      Dude, the "small poor antennas" on your laptops "work both ways" (it attenuates the signal at both ends)... if you got an increase in range by boosting the power on your Access Point, the only thing that proves is that the laptops were providing a significantly stronger signal than your access point! I suppose this is just another condemnation of the Linksys router... For the money you end up spending for the "Linksys combo" (AP and amp), you would be better off getting a higher quality access point from the get-go - or, better yet, go with a high-quality router AND high-gain antennas (high gain antennas, unlike amps, DO work both ways).

      ... and please, don't be fooled by manufacturers' advertised specs - they are all marketing lies anyway.

       Robert McGwier <rwmcgwier@comcast.net> wrote:

        Actually,  this is almost true.   I have two laptops operating in my house.
        The access point had no  trouble hearing them to a nearly perfect level
        but the laptops, with their small poor antennas, had trouble in certain
        spots on my property.  The amps 3 dB increase in omni-drectional
        power made quite the difference in link stability to these laptops, they
        now regularly maintain 11 mbps even out in my back yard.

        My statement about the laptops having trouble hearing, while my
        access point did not,  are based on the access point statistics (packets,
        repeated packets, etc.) and on the signal quality meter available on
        the laptops.  It definitely made a difference here.

        Bob
        N4HY

          -----Original Message-----
          From: bounce-ss-27907@lists.tapr.org [mailto:bounce-ss-27907@lists.tapr.org]On Behalf Of Stewart Teaze
          Sent: Tuesday, December 24, 2002 2:56 AM
          To: TAPR Spread Spectrum Special Interest Group
          Subject: [ss] Re: Linksys 802.11b signal amp

          The obvious market for this product is to the general public, to "increase their hub's reach"... and for this application, this product is Snake Oil.  To effectively increase communications range using increased transmitter power alone, you need to increase power on both sides of the link.

          The proper way to increase hub range is thru gain antennas.

          - Stewart

          ... and please, I understand that this product would help those installations using multiple hubs configured as repeaters(if all the devices included the power increase) - but this is NOT the obvious market that Linksys is shooting for.

           Stephen Nichols <sgnichols@mindspring.com> wrote:

            http://www.linksys.com/splash/wsb24_splash.asp

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## 238. [ss] Re: Linksys 802.11b signal amp <LYR27907-112255-2002.12.24-02.41.52--rwmcgwier#comcast.net@lists.tapr.org> <LYR27907-112298-2002.12.24-11.46.45--rwmcgwier#comcast.net@lists.tapr.org>

From: Phil Karn <karn@ka9q.net>
Date: Thu, 26 Dec 2002 20:24:49 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: TAPR Spread Spectrum Special Interest Group <ss@lists.tapr.org>
Message-ID: <LYR6751-112549-2002.12.26-23.10.43--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Robert McGwier wrote:

>  I am interested
> in my son's laptop working wherever he is, and for mine to work wherever
> it is on my property (even if I am being
> a lazy bum surfing the web out back by the pool or on the back porch).

Instead of adding an amplifier to a single base station, why not just
put up a second access point to fill in the bad coverage spots of the
first? Set them both to the same ESSID, and the handoffs should occur
automatically. Put them on different RF channels (avoiding channel 1 to
protect the satellite band, of course) and your overall network capacity
will double when you and your son are using different base stations.

Phil

---
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## 239. [ss] Re: Linksys 802.11b signal amp

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Fri, 27 Dec 2002 16:26:22 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-112564-2002.12.27-00.17.16--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Phil KA9Q noted
>Instead of adding an amplifier to a single base station, why not just
>put up a second access point to fill in the bad coverage spots of the
>first? Set them both to the same ESSID, and the handoffs should occur
>automatically. Put them on different RF channels (avoiding channel 1 to

>protect the satellite band, of course) and your overall network
capacity
>will double when you and your son are using different base stations.

The only issue with this is that the RF Front Ends on the 802.11
equipment is quite wide. I suspect that there will be some adjacent
channel interference meaning that the overall network capacity is not

quite double. How much less is not certain.

By protecting the satellite band on 'cenfer frequency #1' you are
pushing the units closer together in frequency making it more likely
that there will be destructive interference.

This would also be the ideal scenario for automated power control in
802.11 equipment... If only part-15 had phil's rule on Eb/No for all
power levels :-)

Darryl

---------
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

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## 240. [ss] Re: Linksys 802.11b signal amp

From: Phil Karn <karn@ka9q.net>
Date: Fri, 27 Dec 2002 01:39:28 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: Darryl@radio-active.net.au
Message-ID: <LYR6751-112585-2002.12.27-04.25.26--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Darryl Smith wrote:

> The only issue with this is that the RF Front Ends on the 802.11
> equipment is quite wide. I suspect that there will be some adjacent
> channel interference meaning that the overall network capacity is not
> quite double. How much less is not certain.

Do you have any numbers that could quantify this? I've long been
interested in just how good (or bad) 802.11b RF front ends are, on both
the TX and RX sides. What does the spectrum of a typical 802.11b card
look like -- is there any filtering at all, or do you see a typical
sin(x)/x spectrum?

I can say that it's pretty common practice to deploy many base stations
with common ESSIDs on a common LAN backbone to increase capacity and
coverage throughout office buildings, hotels, etc. We do it at Qualcomm,
and it seems to work well. IETF meetings typically use 40-50 base
stations to cover a large hotel and convention center, and they do work
quite well despite very heavy use.

In any event, I don't see how you can do worse by adding extra base
stations than by adding an amplifier to a single base station. And given
how cheap base stations have become, I wouldn't be surprised if the
extra base station is cheaper than the external RF power amplifier.

Phil

---
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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 241. [ss] Bogus Reply-To: headers

From: Phil Karn <karn@ka9q.net>
Date: Fri, 27 Dec 2002 01:44:16 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-112586-2002.12.27-04.30.06--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Once again I see that the list processor for this group is
misconfigured. It's adding a "Reply-To:" header that points to the list.
This makes it tedious in most mailers to compose replies to the original

sender of an article (with or without a copy to the list).

Can somebody please fix this by removing this header? Thanks.

Phil

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 242. [ss] The Channel Overlap Issue

From: "John Champa" <k8ocl@hotmail.com>
Date: Fri, 27 Dec 2002 05:12:24 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-112587-2002.12.27-04.58.16--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Bob,

Phil has a good point.  The problem is the part about avoiding Channel 1. That is an important consideration to avoid QRM to AO-40 downlinks, of course, so we should all stay off Channel 1 for certain.

However, if you are operating under Part 97, Channel 6 (2437 MHz center frequency) is as high as you can go before you are out of the band, and you would have to go all the way down to Channel 1 to rid yourself of all channel overlap.

What the local HSMM Experimenters Team is trying to establish is, it is sufficient in most instances to simply drop down 2 or 3 channels, e.g. to Channel 4 (2427 MHz) even or Channel 3 (2422 MHz) to accomplish most of the objective, i.e. is that sufficient reduction of the amount of channel overlap to avoid most of the destructive interference between channels when using two Access Points (AP) in close proximity to each other?

We are conducting our first HSMM Experimenters Team Work Shop in Livingston County (Michigan) on January 4th and running what we hope will be our largest roundtable QSO to date (ad hoc mode), so we should have a few answers by then.  You can check our webpage for our findings (www.arrl.org/hsmm).

73, John - K8OCL

From: "TAPR Spread Spectrum Special Interest Group digest"
<ss@lists.tapr.org>
Reply-To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
To: "ss digest recipients" <ss@lists.tapr.org>
Subject: ss digest: December 26, 2002
Date: Fri, 27 Dec 2002 00:00:28 -0500

TAPR Spread Spectrum Special Interest Group Digest for Thursday, December 26, 2002.

1. Re: Linksys 802.11b signal amp
<LYR27907-112255-2002.12.24-02.41.52--rwmcgwier#comcast.net@lists.tapr.org>
<LYR27907-112298-2002.12.24-11.46.45--rwmcgwier#comcast.net@lists.tapr.org>

---

Subject: Re: Linksys 802.11b signal amp
<LYR27907-112255-2002.12.24-02.41.52--rwmcgwier#comcast.net@lists.tapr.org>
<LYR27907-112298-2002.12.24-11.46.45--rwmcgwier#comcast.net@lists.tapr.org>
From: Phil Karn <karn@ka9q.net>
Date: Thu, 26 Dec 2002 20:24:49 -0800
X-Message-Number: 1

Robert McGwier wrote:

> I am interested
> in my son's laptop working wherever he is, and for mine to work wherever
> it is on my property (even if I am being
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Instead of adding an amplifier to a single base station, why not just
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automatically. Put them on different RF channels (avoiding channel 1 to
protect the satellite band, of course) and your overall network capacity
will double when you and your son are using different base stations.

Phil

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END OF DIGEST

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## 243. [ss] Re: Linksys 802.11b signal amp

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Fri, 27 Dec 2002 22:32:31 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-112590-2002.12.27-06.18.49--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Phil Wrote...

>Do you have any numbers that could quantify this? I've long been
>interested in just how good (or bad) 802.11b RF front ends are, on both

>the TX and RX sides. What does the spectrum of a typical 802.11b card
>look like -- is there any filtering at all, or do you see a typical
>sin(x)/x spectrum?

According to p180 of O'Reilly's 802.11 Wireless Networks the spectrum of
a typical 802.11 signal looks to be sin(x)/x. It has nulls at 11 & 22
MHz, with the peaks of -30db and -50db at 33 MHz and 55 MHz offsets
repectively.

Notice that the nulls are offset by 11 MHz, and the frequency spacing
(AKA Channel Spacing) is 5 MHz. That means that center frequencies will
not line up with the nulls of the sin(x)/x. This overlap will cause some
loss of throughput theoretically even if it only increases the noise.

The question becomes how do systems with lots of base stations actually
get the throughput...

        a) Near-Far problem, with the interfering base station being
far. Therefore the near base station tends to get through the
interference
        b) Inside - the worst possible RF environment. Things get
absorbed by the walls.
        c) Good error handling
        d) Good protocols

IMHO the most stupid thing the IEEE did with 802.11 was only have three
frequencies. A fourth would have dramatically reduced the interference
potential (look at a map - what is the minimum number of colours used?)

I don't have actual numbers of for the receive or transmit front ends,
but I seem to remember some work somewhere on this - I cant remember
where. But if you think about it, there must be problems with co-channel
interference

darryl

---
Darryl Smith, VK2TDS  POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

-----Original Message-----
From: Phil Karn [mailto:karn@ka9q.net]
Sent: Friday, 27 December 2002 8:39 PM
To: TAPR Spread Spectrum Special Interest Group
Cc: Darryl@radio-active.net.au
Subject: Re: [ss] Re: Linksys 802.11b signal amp

Darryl Smith wrote:

> The only issue with this is that the RF Front Ends on the 802.11
> equipment is quite wide. I suspect that there will be some adjacent
> channel interference meaning that the overall network capacity is not
> quite double. How much less is not certain.

Do you have any numbers that could quantify this? I've long been
interested in just how good (or bad) 802.11b RF front ends are, on both
the TX and RX sides. What does the spectrum of a typical 802.11b card
look like -- is there any filtering at all, or do you see a typical
sin(x)/x spectrum?

I can say that it's pretty common practice to deploy many base stations
with common ESSIDs on a common LAN backbone to increase capacity and
coverage throughout office buildings, hotels, etc. We do it at Qualcomm,

and it seems to work well. IETF meetings typically use 40-50 base
stations to cover a large hotel and convention center, and they do work
quite well despite very heavy use.

In any event, I don't see how you can do worse by adding extra base
stations than by adding an amplifier to a single base station. And given

how cheap base stations have become, I wouldn't be surprised if the
extra base station is cheaper than the external RF power amplifier.

Phil

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 244. [ss] Re: Linksys 802.11b signal amp

From: "Hampton, Rickey L." <RHAMPTON@PARTNERS.ORG>
Date: Fri, 27 Dec 2002 09:20:57 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-112613-2002.12.27-09.06.55--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Guys, just a couple of questions...

Phil Karn wrote:

"What does the spectrum of a typical 802.11b card look like -- is there any
filtering at all, or do you see a typical sin(x)/x spectrum?"

I have a screen shot of two APs, one on channel 1, the other on channel 6,
that I took with a loaner spectrum analyzer.  (Mine is on order for a
February delivery.)  Is that what you are looking for?  If so, let me know
and I'll pass it along to everyone that's interested.  (I don't know if the
reflector will pass along attachments, but even if it does, I don't want to
cause trouble for those who don't want the file.)

Phil Karn also wrote:
"...avoiding channel 1 to protect the satellite band, of course...

My group is getting ready to deploy (whether I like it or not) a huge
network in several of our hospitals.  Most of it will be with 802.11b for
data, but the rest will be 802.11FH for medical telemetry.  As with other
Part 15 users, much as I hate to say it, channel 1 figures in greatly for

best usage of the spectrum for our purpose.  So much for protecting the satellite band.

Darryl Smith wrote:

"Inside - the worst possible RF environment. Things get absorbed by the walls."

Darryl, I'm not poking fun at you, but as for attenuation from walls, HA HA HA!  You have GOT to be kidding!  We have APs with which I can associate from distances you wouldn't believe using nothing but the patch antenna built into the Cisco card for my laptop and getting the full 11 Mbps. (That's also why we're running some pretty hefty encryption on top of the weak crap supplied as a part of 802.11b.)  Once I get my spec analyzer, I want to go measure some signal strengths and knock the power down on some of these APs.  Here is what NIST had to say about the range of these things in a recent paper on wireless security:

"The reliable coverage range for 802.11 WLANs depends on several factors, including data rate required and capacity, sources of RF interference, physical area and characteristics, power, connectivity, and antenna usage. Theoretical ranges are from 29 meters (for 11 Mbps) in a closed office area to 485 meters (for 1 Mbps) in an open area. However, through empirical analysis, the typical range for connectivity of 802.11 equipment is approximately 50 meters (about 163 ft.) indoors. A range of 400 meters, nearly ¼ mile, makes WLAN the ideal technology for many campus applications. It is important to recognize that special high-gain antennas can increase the range to several miles."

I was asked to do a site survey for one of our four story buildings.  It's a rehab'ed warehouse with 5 meter ceilings and at least 50 meters long. Again, we were able to get the full 11 Mbps throughput anywhere in the building with only ONE access point located in the middle of the ground floor.  It was using the stock whips and the laptop was using the patch antenna.  So far, the only thing I've seen that's effective in attenuating or blocking these signals is aluminum siding and storm windows.

So, the next question is, what kinds of tests would you like to see run?  In about a month, I have to do some coexistence tests between the 802.11FH and .11b stuff.  (The stuff is to be installed in the same physical areas, by the way.)  I also want to do some tests to see what happens to the throughput when the APs aren't only on channels 1, 6, and 11.  If you can come up with some meaningful tests, I'll do my best to run them in as controlled an environment as possible.  I'm really hoping all this Part 15 ss stuff works as advertised when it comes to interference.  It's not going to look good if hospitals and hams jam each other.

Rick Hampton, WD8KEL
Wireless Communications Manager
Partners HealthCare Systems
One Constitution Center, 2nd Floor
Charlestown, MA 02129

Phone: 617-726-6633

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 245. [ss] Re: Linksys 802.11b signal amp

From: Phil Karn <karn@ka9q.net>
Date: Fri, 27 Dec 2002 10:48:22 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: TAPR Spread Spectrum Special Interest Group <ss@lists.tapr.org>
Message-ID: <LYR6751-112634-2002.12.27-13.34.19--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hampton, Rickey L. wrote:

> I have a screen shot of two APs, one on channel 1, the other on channel 6,
> that I took with a loaner spectrum analyzer.  (Mine is on order for a
> February delivery.)  Is that what you are looking for?

Yes. Did you take care to avoid the usual artifacts of taking the spectra of such short, low duty-cycle signals? You need to use a relatively wide resolution bandwidth and fast sweep, and integrate many packets over time.

> My group is getting ready to deploy (whether I like it or not) a huge

> network in several of our hospitals.  Most of it will be with 802.11b for
> data, but the rest will be 802.11FH for medical telemetry.

Why not just use DS for everything? The channel contention algorithms
work better when the co-channel base stations can hear and obey each
others' hold-off packets.

  As with other
> Part 15 users, much as I hate to say it, channel 1 figures in greatly for
> best usage of the spectrum for our purpose.  So much for protecting the
> satellite band.

Well, since the amateur satellite service is using 2400 MHz as a
downlink right now, it's probably more important to avoid channel 1 in
residential areas near ham operators than in large institutional
settings away from residential areas.

Phil

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 246. [ss] Re: Linksys 802.11b signal amp

From: Phil Karn <karn@ka9q.net>
Date: Fri, 27 Dec 2002 12:29:15 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: "'TAPR Spread Spectrum Special Interest Group'" <ss@lists.tapr.org>
Message-ID: <LYR6751-112640-2002.12.27-15.15.12--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Darryl Smith wrote:
> The question becomes how do systems with lots of base stations actually
> get the throughput...
>
>       a) Near-Far problem, with the interfering base station being
> far. Therefore the near base station tends to get through the
> interference

Yes. If all the users are much closer to one base station than to the
others, then everything works well.

>       b) Inside - the worst possible RF environment. Things get
> absorbed by the walls.

Actually, absorption is *good* in a frequency reuse environment like the
one we're talking about here. The very last thing you want in a cellular
network is inverse-square (free space) propagation.

Are you familar with Olbers' Paradox in astronomy? It poses a seemingly
simple question: why is the sky dark at night? If the universe is
static, infinite and uniformly filled with an infinite number of stars,
then in any direction you look you'd be looking at a star. The night sky
should be uniformly bright, so bright that we'd immediately burn to a crisp.

The resolution to the paradox lies in its erroneous assumptions. The
universe is not infinite and static. It's expanding. You have red shifts
that increase with distance, and this has the effect of increasing the
"path loss" from a distant galaxy to more than simple inverse square.

Similarly, an infinite cellular network cannot function unless the
propagation losses are greater than inverse square. Otherwise, each base
station would be lost in the din of countless remote base stations on
the same frequency.

So while you're cursing all those walls and obstacles as you set up your
large institutional 802.11 network, keep in mind that these same
obstacles allow you to build a network with much greater aggregate
capacity than would otherwise be possible. And it further underscores
the superiority of adding base stations to fill in coverage holes
instead of increasing the power level of the existing base stations.

Phil

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 247. [ss] DoD and 802.11a

From: "Stephen Nichols" <sgnichols@mindspring.com>
Date: Mon, 30 Dec 2002 14:17:21 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-112981-2002.12.30-15.03.19--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

http://www.theregister.co.uk/content/59/28639.html

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 248. [ss] another DoD and 802.11

From: "Stephen Nichols" <sgnichols@mindspring.com>
Date: Mon, 30 Dec 2002 14:20:57 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-112982-2002.12.30-15.06.52--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

This requires a free NYT registration:

http://www.nytimes.com/2002/12/17/technology/17WIRE.html

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

# January 2003

Original source file: ss.0301
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/ss.0301

## 1. [ss] RE: Bogus Reply-To: headers

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Thu, 2 Jan 2003 08:58:39 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-113242-2003.01.01-16.45.06--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Once again I see that the list processor for this group is
> misconfigured. It's adding a "Reply-To:" header that points
> to the list.
> This makes it tedious in most mailers to compose replies to
> the original
> sender of an article (with or without a copy to the list).
>
> Can somebody please fix this by removing this header? Thanks.

Hmm, trying to start a religious argument, are we? ;-)  It's definitely a religious argument, and there's arguments both ways.  I'm on other lists which have people of similar technical knowledge who are complaining that replies don't go to the list by default!

Really, the best we can do is just accept what the list admin has setup, because either way, you're going to get people complaining.  Introducing a change is the surest way to make that happen!  :-)

---
Outgoing mail has been scanned for Viruses
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.431 / Virus Database: 242 - Release Date: 17/12/2002

This correspondence is for the named person□s use only. It may contain confidential or legally privileged information or both. No confidentiality or privilege is waived or lost by any mistransmission. If you receive this correspondence in error, please immediately delete it from your system and notify the sender. You must not disclose, copy or rely on any part of this correspondence if you are not the intended recipient.

Any opinions expressed in this message are those of the individual sender.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 2. [ss] RE: Bogus Reply-To: headers

From: Jeff King <jeff@aerodata.net>
Date: Wed, 1 Jan 2003 17:39:20 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-113247-2003.01.01-17.25.41--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

It is mis-configured. Religion has nothing to do with it.

There is supposed to be one standard for the TAPR lists, and as I recall, when there was a "religious war" on this very topic on the APRS-SIG sometime back (which, BTW, is configured correctly now), it was stated that there would be one standard for all the TAPR lists.

--
Jeff King, jeff@aerodata.net on 1/1/2003

On Thu, 2 Jan 2003 08:58:39 +1100, Tony Langdon wrote:
>> Once again I see that the list processor for this group is
>> misconfigured. It's adding a "Reply-To:" header that points
>> to the list.
>> This makes it tedious in most mailers to compose replies to
>> the original
>> sender of an article (with or without a copy to the list).
>>
>> Can somebody please fix this by removing this header? Thanks.

>
>Hmm, trying to start a religious argument, are we? ;-)  It's definitely a
>religious argument, and there's arguments both ways.  I'm on other lists
>which have people of similar technical knowledge who are complaining that
>replies don't go to the list by default!
>
>Really, the best we can do is just accept what the list admin has setup,
>because either way, you're going to get people complaining.  Introducing a
>change is the surest way to make that happen!  :-)
>
>---
>Outgoing mail has been scanned for Viruses
>Checked by AVG anti-virus system (http://www.grisoft.com).
>Version: 6.0.431 / Virus Database: 242 - Release Date: 17/12/2002
>
>
>This correspondence is for the named person□s use only. It may contain
>confidential or legally privileged information or both. No confidentiality
>or privilege is waived or lost by any mistransmission. If you receive this
>correspondence in error, please immediately delete it from your system and
>notify the sender. You must not disclose, copy or rely on any part of this
>correspondence if you are not the intended recipient.
>
>Any opinions expressed in this message are those of the individual sender.
>
>
>---
>You are currently subscribed to ss as: jeff@aerodata.net
>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 3. [ss] RE: Bogus Reply-To: headers

From: Hamish Moffatt <hamish@cloud.net.au>
Date: Thu, 2 Jan 2003 11:02:36 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-113254-2003.01.01-18.48.44--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Thu, Jan 02, 2003 at 08:58:39AM +1100, Tony Langdon wrote:
> Hmm, trying to start a religious argument, are we? ;-)  It's definitely a
> religious argument, and there's arguments both ways.  I'm on other lists

It shouldn't be religious as there are good reasons not to munge
reply-to. See http://www.unicom.com/pw/reply-to-harmful.html

> which have people of similar technical knowledge who are complaining that
> replies don't go to the list by default!

That's because they're using a poor MUA (mail user agent, or mail
reader) or not using it properly.

Hamish
--
Hamish Moffatt VK3SB <hamish@debian.org> <hamish@cloud.net.au>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 4. [ss] RE: Bogus Reply-To: headers

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Thu, 2 Jan 2003 11:13:21 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-113257-2003.01.01-18.59.38--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> It shouldn't be religious as there are good reasons not to munge
> reply-to. See http://www.unicom.com/pw/reply-to-harmful.html

There's also a counter to that page as well.  Can't remember the URL...

> That's because they're using a poor MUA (mail user agent, or mail

> reader) or not using it properly.

Most MUAs (especially Windoze ones) suck in this respect.  There should be a
"reply to list" function in them all.  Reply to all doesn't cut it, ppl get
peeved by getting the CC'd email (or having to delete the direct one to stop
the other person getting peeved! :)).

---
Outgoing mail has been scanned for Viruses
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.431 / Virus Database: 242 - Release Date: 17/12/2002

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confidential or legally privileged information or both. No confidentiality
or privilege is waived or lost by any mistransmission. If you receive this
correspondence in error, please immediately delete it from your system and
notify the sender. You must not disclose, copy or rely on any part of this
correspondence if you are not the intended recipient.

Any opinions expressed in this message are those of the individual sender.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 5. [ss] RE: Bogus Reply-To: headers

From: ss@ka9q.net
Date: Wed, 01 Jan 2003 17:07:12 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: ss@lists.tapr.org
Message-ID: <LYR6751-113299-2003.01.02-00.10.50--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>>It shouldn't be religious as there are good reasons not to munge
>> reply-to. See http://www.unicom.com/pw/reply-to-harmful.html

I wasn't aware of this page until now. It's outstanding. Says everything
I'd say.

>Most MUAs (especially Windoze ones) suck in this respect.  There should be a
>"reply to list" function in them all.  Reply to all doesn't cut it, ppl get
>peeved by getting the CC'd email (or having to delete the direct one to stop
>the other person getting peeved! :)).

That doesn't cut it. When I respond to a list message, as a courtesy I
*want* to give that person an advance opportunity to respond.  So in
addition to sending to the list, I *specifically* want to send a
courtesy copy direct to the person to whom I'm replying.

The person to whom I'm replying might automatically sort (e.g., with
procmail) mailing list traffic into a separate folder that he doesn't
read as often as his regular email. Even if he he does read the list
regularly, if it's high volume he might easily miss my message.

Also, the list processor might be slow (especially if the list has
many subscribers and a lot of traffic), so he might not get his copy for
some time.

On rare occasions, someone will ask me not to send them courtesy
copies.  In those cases, I honor the request. But most people seem to
appreciate them, as I do when others send me courtesy copies of their
replies to my list messages.

Phil

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 6. [ss] RE: Bogus Reply-To: headers

From: Hamish Moffatt <hamish@cloud.net.au>
Date: Thu, 2 Jan 2003 17:56:24 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-113303-2003.01.02-01.42.46--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Wed, Jan 01, 2003 at 05:07:12PM -0800, ss@ka9q.net wrote:
> On rare occasions, someone will ask me not to send them courtesy
> copies.  In those cases, I honor the request. But most people seem to
> appreciate them, as I do when others send me courtesy copies of their
> replies to my list messages.

There's a mail header field called Mail-Followup-To which an MUA can use
to control this, if you don't want to receive courtesy copies. In
"Mutt", the group reply command uses the mail-followup-to if present.

For example, the Mail-Followup-To on this post would give the list
address only, indicating that I don't want courtesy copies. (I don't get
too upset if I receive them anyway, though.)

Hamish
--
Hamish Moffatt VK3SB <hamish@debian.org> <hamish@cloud.net.au>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 7. [ss] Re: Linksys 802.11b signal amp

From: Anthony.N.Martin@marconimobile.com
Date: Thu, 2 Jan 2003 15:19:02 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-113324-2003.01.02-10.04.45--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> > The only issue with this is that the RF Front Ends on the 802.11
> > equipment is quite wide. I suspect that there will be some adjacent
> > channel interference meaning that the overall network capacity is not
> > quite double. How much less is not certain.

> Do you have any numbers that could quantify this? I've long been
> interested in just how good (or bad) 802.11b RF front ends are, on both
> the TX and RX sides. What does the spectrum of a typical 802.11b card
> look like -- is there any filtering at all, or do you see a typical
> sin(x)/x spectrum?

Tx modulation envelope is given in the 802.11 spec.
Sidelobes must be suppressed so filtering is required.


I did some co-site measurements on some 2.4GHz devices;
although not WLAN they use common WLAN components and
the same RF circuit arrangements. I needed to answer some
basic questions for demonstrating a repeater at 2.4GHz.

I measured the Tx noise level at channels far away from
the carrier.

I calculated (datasheet) values for the 1dB compression
point of the receiver front-end LNA/mixer.

Reciprocal mixing with Rx LO noise is also a performance
limiting factor, but it was figured that the Tx LO was
the same thing and with modulation and PA so the Tx noise
would always be worse.

These results both suggested attenuation of around 45dB
would be needed between a near transmitter and a receiver
so as not to degrade its sensitivity to a weak signal

I constructed a test setup using a screened low-level
"wanted" signal transmitter and a high-level "interferer"
transmitter mixed at different levels and fed to a receiver.
The low-level signal level was set so that it was just
above receiver threshold and the interferer level increased
until the wanted signal was lost.

Measured results showed 50dB and on some channels 55dB
isolation was required between the interfering transmitter
and the receiver to avoid degraded Rx sensitivity.

This translates into a horizontal separation of dipoles of
the order of 10m.

40dB isolation was easily achieved by stacking 2 dipoles

vertically with a horizontal metal plate between;
50dB is achievable with accurate positioning and with
no reflecting objects nearby; only practical outdoors.
Otherwise you're looking at cavity filters or directional
antennas if you must put them close together.

As the emissions of WLAN are broader-bandwidth, using
sufficient channel separation may be more of an issue.

But as a general rule to derive from this, keep your
AP's or antennas at least 10m apart if you want them
to work on different channels at the same time.

These results were at 50mW; if you're jacking up the Tx
power then isolation must be increased pro-rata. Some
cards may be worse if they use lower levels in the Tx
modulation chain or LNA's with lower compression points.
When this transceiver was designed, we were paying
attention to these issues; WLAN RF designers probably
rate co-site of little importance.

Also bear in mind the screening effectiveness of a WLAN
card at 2.4GHz is not great and two WLAN cards in the
same PC are likely to block one another irrespective of
what kind of antennas you use. The bus-connector end of
a PCMCIA card cannot be closed effectively, and is
typically left open, leaving a nice slot-length for
coupling RF in and out of the card. Keep at least 0.5m
physical separation between cards, unless you build
additional screening boxes effective at 2.4GHz.


All this only matters if cards are on *different* channels;
in a typical SOHO using one frequency the desks don't have
to be 10m apart!

Ant M1FDE



---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 8. [ss] RE: Bogus Reply-To: headers

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Fri, 3 Jan 2003 08:32:04 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-113349-2003.01.02-16.18.16--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> There's a mail header field called Mail-Followup-To which an
> MUA can use
> to control this, if you don't want to receive courtesy copies. In
> "Mutt", the group reply command uses the mail-followup-to if present.

I suspect only decent MUAs support this (i.e. what 90% of the population
don't use).  Would be a nice solution...

> For example, the Mail-Followup-To on this post would give the list
> address only, indicating that I don't want courtesy copies.
> (I don't get
> too upset if I receive them anyway, though.)

I just delete the extra email, but they do tend to clutter things a bit.  On
my older setup,I used to have the problem of not knowing if the CC was
really a CC or a direct reply, but that's not an issue now.  Might have to
try playing with the Mail-Followup-To: header...

Anyway, back to SS. :)

---
Outgoing mail has been scanned for Viruses
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.431 / Virus Database: 242 - Release Date: 17/12/2002


This correspondence is for the named person□s use only. It may contain

confidential or legally privileged information or both. No confidentiality
or privilege is waived or lost by any mistransmission. If you receive this
correspondence in error, please immediately delete it from your system and
notify the sender. You must not disclose, copy or rely on any part of this
correspondence if you are not the intended recipient.

Any opinions expressed in this message are those of the individual sender.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 9. [ss] Get Published and Extend Your TAPR Membership!

From: Stan Horzepa <stanzepa@earthlink.net>
Date: Fri, 03 Jan 2003 08:52:25 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-113448-2003.01.03-08.44.28--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

TAPR members:

The editorial board of Packet Status Register (PSR, the quarterly Newsletter
of TAPR) is now soliciting articles, news items, etc. for the next issue of
the newsletter. Topics related to digital Amateur Radio will be given
preference and the editorial board reserves the right to determine what is
suitable for publication.

As a bonus, if your contribution is published in PSR, your TAPR membership
will be extended by 3 months.

E-mail your contributions to wa1lou@tapr.org ASAP because the deadline for
the next issue of the newsletter is January 26.

73,

Stan Horzepa, WA1LOU, PSR Editor

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 10. [ss] Re: Linksys 802.11b signal amp

From: Anthony.N.Martin@marconimobile.com
Date: Fri, 3 Jan 2003 18:11:45 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-113486-2003.01.03-12.57.30--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> > Do you have any numbers that could quantify this? I've long been
> > interested in just how good (or bad) 802.11b RF front ends are, on both
> > the TX and RX sides. What does the spectrum of a typical 802.11b card
> > look like -- is there any filtering at all, or do you see a typical
> > sin(x)/x spectrum?

> Tx modulation envelope is given in the 802.11 spec.
> Sidelobes must be suppressed so filtering is required.

I've just been looking up the FCC ID of the Linksys WPC-11
DSSS card to see what the FCC has on it.
FCC ID O7J-GL2411010700 (that's oscar seven juliet...)

https://gullfoss2.fcc.gov/cgi-bin/ws.exe/prod/oet/forms/reports/Search_Form.hts?mode=Edit&form=Exhibits&
application_id=98545&fcc_id=O7J-GL2411010700

The grantee is "Global Sun Tech" or "Global Sun Communications
Inc" Taiwan (who seem to make cards & APs for everybody).

There is a spectrum analyser plot of the modulated output given
for a test mode at Tx 100% duty.

Tx power (of the sample tested) was:
Ch1  16.6dBm
Ch6  18.9dBm
Ch11 17.2 dBm

Hmm, the power levelling isn't very good.
There are advantages to using the middle of the band.

Full schematics for the WPC-11 are given.

Schematics of the GL2411AP are also in there.

Ant M1FDE

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 11. [ss] Spectrum Analyser for 2.4 GHz

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Sun, 5 Jan 2003 11:45:04 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-113636-2003.01.04-19.30.09--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

People

I see the need for a spectrum analyser for 2.4 Ghz for the people playing with 802.11 - Hams and Non-Hams. Something with a PIC processor that outputs the signal out a serial port to something like a palm pilot for display.

Block Diagram

VCO slightly higher in frequency
Mixed with signal from antenna
Filtered at 45MHz, 70MHz, etc band
Energy Detect.

I was thinking maybe 100 KHz bandwidth for the filter which should not be too hard. Energy detect with a Log Amp from Analog Devices. Possible other filter bandwidths too.

As far as I can see this should not be to hard to do. Most of the components should be available cheap from MiniCircuits or Analog Devices. For instance

Minicircuit have a couple of interesting VCO's

| | | |
|---|---|---|
| JTOS-3000P | 2300-2600 MHz | 21.95 |
| JTOS-3000 | 2300-3000 MHz | 20.95 |

Anyone interested in taking this project on?

Darryl

---
Darryl Smith, VK2TDS POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 12. [ss] Idea for Spectrum Analyzer

From: DerekLassen <kn6td@clubnet.net>
Date: Sat, 04 Jan 2003 19:14:39 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-113646-2003.01.04-22.01.27--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Here is a pointer to a project that might provide useful pieces.
As it currently stands, its for audio (slow A/D), but faster A/D devices abound. And, its USB hosted.
http://www.sevenlands.co.uk/mscope

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 13. [ss] Re: Linksys 802.11b signal amp

From: Anthony.N.Martin@marconimobile.com
Date: Thu, 2 Jan 2003 15:19:02 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-113799-2003.01.06-04.07.21--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> > The only issue with this is that the RF Front Ends on the 802.11
> > equipment is quite wide. I suspect that there will be some adjacent
> > channel interference meaning that the overall network capacity is not
> > quite double. How much less is not certain.

> Do you have any numbers that could quantify this? I've long been
> interested in just how good (or bad) 802.11b RF front ends are, on both
> the TX and RX sides. What does the spectrum of a typical 802.11b card
> look like -- is there any filtering at all, or do you see a typical
> sin(x)/x spectrum?

Tx modulation envelope is given in the 802.11 spec.
Sidelobes must be suppressed so filtering is required.

I did some co-site measurements on some 2.4GHz devices;
although not WLAN they use common WLAN components and
the same RF circuit arrangements. I needed to answer some
basic questions for demonstrating a repeater at 2.4GHz.

I measured the Tx noise level at channels far away from
the carrier.

I calculated (datasheet) values for the 1dB compression
point of the receiver front-end LNA/mixer.

Reciprocal mixing with Rx LO noise is also a performance
limiting factor, but it was figured that the Tx LO was
the same thing and with modulation and PA so the Tx noise
would always be worse.

These results both suggested attenuation of around 45dB
would be needed between a near transmitter and a receiver
so as not to degrade its sensitivity to a weak signal

I constructed a test setup using a screened low-level
"wanted" signal transmitter and a high-level "interferer"
transmitter mixed at different levels and fed to a receiver.
The low-level signal level was set so that it was just
above receiver threshold and the interferer level increased
until the wanted signal was lost.

Measured results showed 50dB and on some channels 55dB
isolation was required between the interfering transmitter
and the receiver to avoid degraded Rx sensitivity.

This translates into a horizontal separation of dipoles of
the order of 10m.

40dB isolation was easily achieved by stacking 2 dipoles
vertically with a horizontal metal plate between;
50dB is achievable with accurate positioning and with
no reflecting objects nearby; only practical outdoors.
Otherwise you're looking at cavity filters or directional
antennas if you must put them close together.

As the emissions of WLAN are broader-bandwidth, using
sufficient channel separation may be more of an issue.

But as a general rule to derive from this, keep your
AP's or antennas at least 10m apart if you want them
to work on different channels at the same time.

These results were at 50mW; if you're jacking up the Tx
power then isolation must be increased pro-rata. Some
cards may be worse if they use lower levels in the Tx
modulation chain or LNA's with lower compression points.
When this transceiver was designed, we were paying
attention to these issues; WLAN RF designers probably
rate co-site of little importance.

Also bear in mind the screening effectiveness of a WLAN

card at 2.4GHz is not great and two WLAN cards in the
same PC are likely to block one another irrespective of
what kind of antennas you use. The bus-connector end of
a PCMCIA card cannot be closed effectively, and is
typically left open, leaving a nice slot-length for
coupling RF in and out of the card. Keep at least 0.5m
physical separation between cards, unless you build
additional screening boxes effective at 2.4GHz.


All this only matters if cards are on *different* channels;
in a typical SOHO using one frequency the desks don't have
to be 10m apart!

Ant M1FDE



---
You are currently subscribed to ss as: yubingz@21cn.com
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---
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## 14. [ss] Re: Linksys 802.11b signal amp

From: "Hampton, Rickey L." <RHAMPTON@PARTNERS.ORG>
Date: Mon, 6 Jan 2003 08:24:01 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-113812-2003.01.06-08.10.25--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Anthony,

This is interesting and seems to bear out what I've seen regarding placement of
.11x APs.

I'm scheduled to run some coexistence tests, probably a little more than a month
from now, with .11FH and .11b systems.  The two would be used in the same
spaces, overlapping each other.  (A preliminary test, done before I got here,
indicated a minimum separation of around 4 meters between APs was required.)  Do
you or anyone else know of similar tests having already been performed?

This mixing of systems is currently being done at some other places, but no one
seems to have done any measurements, at least that I know of.  None of the
others seem to be experiencing problems, but none of the systems are heavily
loaded, according to the information I have.

Rick Hampton
Wireless Communications Manager
Partners HealthCare Systems
One Constitution Center, 2nd Floor
Charlestown, MA  02129

Phone: 617-726-6633

> -----Original Message-----
> From: Anthony.N.Martin@marconimobile.com
> [SMTP:Anthony.N.Martin@marconimobile.com]
>
> This translates into a horizontal separation of dipoles of
> the order of 10m.
>
> 40dB isolation was easily achieved by stacking 2 dipoles
> vertically with a horizontal metal plate between;
> 50dB is achievable with accurate positioning and with
> no reflecting objects nearby; only practical outdoors.
> Otherwise you're looking at cavity filters or directional
> antennas if you must put them close together.
>
> As the emissions of WLAN are broader-bandwidth, using
> sufficient channel separation may be more of an issue.
>
> But as a general rule to derive from this, keep your
> AP's or antennas at least 10m apart if you want them
> to work on different channels at the same time.

>
>
> Ant M1FDE
>

---
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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 15. [ss] Re: Linksys 802.11b signal amp

From: "Steve Stroh" <lists@strohpub.com>
Date: Mon, 6 Jan 2003 07:01:42 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-113821-2003.01.06-09.50.06--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

It's not well known that MobileStar deployed Proxim RangeLAN II (FHSS) AP's
for some time before adding 802.11b APs into public spaces. In an interview
I did with MobileStar shortly before they went into bankruptcy, they stated
that they would be continuing this dual AP policy as they began to deploy
into Starbucks coffee shops.

Like you have discovered, the major factor in successful coexistence between
the two systems was physical separation, after which they worked fine (by
MobileStar's account).

Once VoiceStream / T-Mobile bought MobileStar's assets out of bankruptcy, I
doubt that they had a contractual obligation to continue to support the
RangeLAN II users as MobileStar did.

You might be able to find someone at Proxim who could speak to this, though
Proxim seems to have completely renounced their interest in FHSS with the
acquisition of the Lucent / Agere / Orinoco 802.11b products and the
corresponding large market share of 802.11b products.


Thanks,

Steve

--
Steve Stroh   steve@strohpub.com  425-481-0600
Editor - FOCUS on Broadband Wireless Internet Access newsletter
http://www.strohpub.com/focus


> -----Original Message-----
> From: bounce-ss-24593@lists.tapr.org
> [mailto:bounce-ss-24593@lists.tapr.org]On Behalf Of Hampton, Rickey L.
> Sent: Monday, January 06, 2003 05:24
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: Linksys 802.11b signal amp
>
>
> Anthony,
>
> This is interesting and seems to bear out what I've seen
> regarding placement of
> .11x APs.
>
> I'm scheduled to run some coexistence tests, probably a little
> more than a month
> from now, with .11FH and .11b systems.  The two would be used in the same
> spaces, overlapping each other.  (A preliminary test, done before
> I got here,
> indicated a minimum separation of around 4 meters between APs was
> required.)  Do
> you or anyone else know of similar tests having already been performed?
>
> This mixing of systems is currently being done at some other
> places, but no one
> seems to have done any measurements, at least that I know of.  None of the
> others seem to be experiencing problems, but none of the systems
> are heavily
> loaded, according to the information I have.
>
> Rick Hampton
> Wireless Communications Manager
> Partners HealthCare Systems

> One Constitution Center, 2nd Floor
> Charlestown, MA  02129
>
> Phone: 617-726-6633

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 16. [ss] ARRLWeb: High Speed Multimedia Hamming Could Be the Next Big Thing

From: Walt DuBose <dubose@texas.net>
Date: Sat, 11 Jan 2003 09:33:17 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-114587-2003.01.11-10.19.49--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

http://www.arrl.org/news/stories/2003/01/10/3/?nc=1

FYI.    -- Walt/K5YFW

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 17. [ss] Re: Qestion for readers

From: "Pinfold" <pinfold@xtra.co.nz>
Date: Mon, 13 Jan 2003 18:53:20 +1300
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-114848-2003.01.13-00.42.05--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi All! just something on a slightly different tack .... I have a n HP 8445B
preselector unit that goes with my HP8555A plug in of my HP141 Spec An but I
don't have a connector lead !(so the ol preselector will track the 8555A
while it sweeps it will save some on screen  frequency selection headaches!)
Does anyone out there have a cable to sell or know how they connect
together?  I think its all 'DC"  no RF involved ,so I could hard wire them
if a cant get the correct interconnecting cable !! cheers Mike ZL1BTB
Rotorua New Zealand
----- Original Message -----
From: Walt DuBose <dubose@texas.net>
To: TAPR Spread Spectrum Special Interest Group <ss@lists.tapr.org>
Sent: Sunday, January 12, 2003 4:33 AM
Subject: [ss] ARRLWeb: High Speed Multimedia Hamming Could Be the Next Big
Thing

> http://www.arrl.org/news/stories/2003/01/10/3/?nc=1
>
> FYI. -- Walt/K5YFW
>
> ---
> You are currently subscribed to ss as: PINFOLD@XTRA.CO.NZ
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 18. [ss] 1KM 802.11b link

From: "Stephen Nichols" <stephen.nichols@sbcglobal.net>
Date: Tue, 14 Jan 2003 17:24:20 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115129-2003.01.14-18.10.55--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

http://www.d128.com/wireless/

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 19. [ss] Re: 1KM 802.11b link

From: Walt DuBose <dubose@texas.net>
Date: Tue, 14 Jan 2003 18:03:38 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115136-2003.01.14-18.50.07--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Stephen Nichols wrote:
>
> http://www.d128.com/wireless/
>
> ---
> You are currently subscribed to ss as: dubose@texas.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

If nothing else, it proves that the LinkSys will take SOME heat.

Walt/K5YFW

---
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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 20. [ss] 802.11a range vs 802.11g range

From: "Stephen Nichols" <stephen.nichols@sbcglobal.net>
Date: Tue, 14 Jan 2003 20:17:17 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115151-2003.01.14-21.03.44--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

http://www.commsdesign.com/design_corner/OEG20030114S0008

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 21. [ss] Content Restrictions

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Wed, 15 Jan 2003 13:22:40 -0600 (CST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115333-2003.01.15-13.05.57--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Once again I feel the need to touch upon this area, as much confusion
seems to exist.  (Recently exhibited by a QRZ forum msg)

Reclassifying under Part 97, imposes the standard amateur restrictions.
Obviously the communications you make under Part 97 must be to and from
licensed amateurs. These communications cannot be made with a pecuniary
interest and may not be obscene or indecent.

I have not found any special digital forwarding rules that would apply to
reclassified Wi-Fi.  Aside from the business communications deal, it's
obscene or indecent.  These are defined in the FCC rule book.

In short: Obscenity & indecency is defined/measured by contemporary
community standards for broadcast medium.

Notice this applies to broadcast medium not just ham radio.  So in theory
if it's on TV it can be on ham radio.  Broadcast medium includes Part 15
transmissions.  In theory they are held to the same content restrictions
we are.  Or at least that how I view it.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 22. [ss] Re: Content Restrictions

From: Jeff King <jeff@aerodata.net>
Date: Wed, 15 Jan 2003 13:31:27 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115335-2003.01.15-13.18.23--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Not being familiar with the QRZ discussion you cite, possibly a explanation
or link to it might help clear up my confusion.

I ran my NOS gateway wide up back in the NOS days. Wasn't worried about it

nor were the other two gateway op's who also ran their's wide open.

I'd also not hesitate to run a part 97 802.11b gateway wide open, as long as
I authenticated the users and they agreed to be a control operator.

You can conduct personal business on amateur radio. You can not run your
small business on it or run a WISP based on part 97 (but you should be able
to recover your costs of the internet connection... aka similar to a
autopatch).

All that is missing is encryption to draw in mass the part 15 hacker's over.

--
Jeff King, jeff@aerodata.net on 1/15/2003

On Wed, 15 Jan 2003 13:22:40 -0600 (CST), Steve Lampereur wrote:
>Once again I feel the need to touch upon this area, as much confusion
>seems to exist.  (Recently exhibited by a QRZ forum msg)
>
>Reclassifying under Part 97, imposes the standard amateur restrictions.
>Obviously the communications you make under Part 97 must be to and from
>licensed amateurs. These communications cannot be made with a pecuniary
>interest and may not be obscene or indecent.
>
>I have not found any special digital forwarding rules that would apply to
>reclassified Wi-Fi.  Aside from the business communications deal, it's
>obscene or indecent.  These are defined in the FCC rule book.
>
>In short: Obscenity & indecency is defined/measured by contemporary
>community standards for broadcast medium.
>
>Notice this applies to broadcast medium not just ham radio.  So in theory
>if it's on TV it can be on ham radio.  Broadcast medium includes Part 15
>transmissions.  In theory they are held to the same content restrictions
>we are.  Or at least that how I view it.
>
>
>---
>You are currently subscribed to ss as: jeff@aerodata.net
>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 23. [ss] RE: Content Restrictions

From: "Hampton, Rickey L." <RHAMPTON@PARTNERS.ORG>
Date: Wed, 15 Jan 2003 13:35:35 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115336-2003.01.15-13.22.28--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve,

With regard to station identification, how would you interpret that?

I've heard some folks claim you would have to ID with CW every 10 minutes,
as we currently do with SSTV and PSK.  I've also heard others argue that you
simply need to insert some ID text into the information stream as we do with
packet.

I tend to fall into the latter group, but I'm just curious as to what others
think.

Rick Hampton
Wireless Communications Manager
Partners HealthCare Systems
One Constitution Center, 2nd Floor
Charlestown, MA  02129

Phone: 617-726-6633

> -----Original Message-----

> From: Steve Lampereur [SMTP:kb9mwr@yahoo.com]
> Sent: Wednesday, January 15, 2003 2:23 PM
> To:   TAPR Spread Spectrum Special Interest Group
> Subject:      [ss] Content Restrictions
>
> Once again I feel the need to touch upon this area, as much confusion
> seems to exist.  (Recently exhibited by a QRZ forum msg)
>
> Reclassifying under Part 97, imposes the standard amateur restrictions.
> Obviously the communications you make under Part 97 must be to and from
> licensed amateurs. These communications cannot be made with a pecuniary
> interest and may not be obscene or indecent.
>
> I have not found any special digital forwarding rules that would apply to
> reclassified Wi-Fi.  Aside from the business communications deal, it's
> obscene or indecent.  These are defined in the FCC rule book.
>
> In short: Obscenity & indecency is defined/measured by contemporary
> community standards for broadcast medium.
>
> Notice this applies to broadcast medium not just ham radio.  So in theory
> if it's on TV it can be on ham radio.  Broadcast medium includes Part 15
> transmissions.  In theory they are held to the same content restrictions
> we are.  Or at least that how I view it.
>
>
> ---
> You are currently subscribed to ss as: rhampton@partners.org
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 24. [ss] RE: Content Restrictions

From: Barry Groupp <n2hdw@optonline.net>
Date: Wed, 15 Jan 2003 14:04:48 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115338-2003.01.15-13.55.30--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

It has been a long time since I originally subscribed to this reflector.  I
have a friend that would also like to subscribe, does anyone out there
remember how he can subscribe to this remailer.

Thank You n2hdw@optonline.net



---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 25. [ss] Re: Content Restrictions

From: Bob Lorenzini <hwm@newportharbornet.com>
Date: Wed, 15 Jan 2003 11:43:55 -0800 (PST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115346-2003.01.15-14.30.47--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Wed, 15 Jan 2003, Steve Lampereur wrote:

>
> In short: Obscenity & indecency is defined/measured by contemporary
> community standards for broadcast medium.
>
> Notice this applies to broadcast medium not just ham radio.  So in theory
> if it's on TV it can be on ham radio.  Broadcast medium includes Part 15
> transmissions.  In theory they are held to the same content restrictions
> we are.  Or at least that how I view it.

A Federal judge in Los Angeles has ruled that in a obscenity case involving
an amateur radio operator on trial that community standards applied. The
standards here are so low that almost anything goes.

There is an article on slashdot.org today about high-speed multimedia
hamming and the tone of the followups is not kind to amateur operators.

Bob - wd6dod

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 26. [ss] Re: Content Restrictions

From: Jeff King <jeff@aerodata.net>
Date: Wed, 15 Jan 2003 14:53:03 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115350-2003.01.15-14.40.08--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Wed, 15 Jan 2003 11:43:55 -0800 (PST), Bob Lorenzini wrote:

>There is an article on slashdot.org today about high-speed multimedia
>hamming and the tone of the followups is not kind to amateur operators.

Turn the troll filter on and it gets alot better. (actually, it is on by
default??)

Fairly positive I'm seeing considering it is on slashdot.

http://slashdot.org/article.pl?sid=03/01/15/1337204&mode=thread&tid=95

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 27. [ss] Re: Slashdot

From: dubose@texas.net
Date: Wed, 15 Jan 2003 14:12:48 US/Central
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115356-2003.01.15-14.59.43--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> >
> There is an article on slashdot.org today about high-speed multimedia
> hamming and the tone of the followups is not kind to amateur operators.
>
> Bob - wd6dod
>

Yet the HSMM WG has received many favorable comments and questions about our
operation than unkind E-Mail on Slashdot.

Walt/K5YFW
HSMM WG Member

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 28. [ss] Re: Content Restrictions

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Thu, 16 Jan 2003 12:46:50 -0600 (CST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115509-2003.01.16-12.31.01--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Okay lets touch upon encryption then.  I've notices alot of hams are
concerned about eavesdroppers grabbing our passwords.

This probably isn't much of an issue for a private network, but I can
see it being an issue when porting traffic over the internet.  Keep in
mind how the FCC rules are stated: "An amateur station shall not
intentionally obscure the meaning ..."  Encrypting just login & password
strings doesn't obscure the meaning does it?  Also using encryption can
be classified as an "unspecified" digital code, which is  permitted as

long as you provide public documentation for it.  Which can be fulfilled
by posting your encryption key on your internet webpage, for example.

I'll admit I've used experimented with DES voice encryption using a
Motorola MCX-100 on 2 meters.  I did what I mentioned above, posted the
encryption key on my internet webpage.  Maybe that was a big no-no and I
should of gotten a pink slip?

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 29. [ss] RE: Content Restrictions

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Fri, 17 Jan 2003 08:13:45 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115541-2003.01.16-16.00.36--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> With regard to station identification, how would you interpret that?
>
> I've heard some folks claim you would have to ID with CW
> every 10 minutes,
> as we currently do with SSTV and PSK.  I've also heard others
> argue that you
> simply need to insert some ID text into the information
> stream as we do with
> packet.
>
> I tend to fall into the latter group, but I'm just curious as
> to what others
> think.

Dunno what the situation is over there, but here, we can use an
"internationally recocgnised code" for IDing.  ASCII beacons in 802.11b
frames are definitely internationally recognised and easily found with
packet sniffers.

---
Outgoing mail has been scanned for Viruses
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.443 / Virus Database: 248 - Release Date: 10/01/2003

This correspondence is for the named person□s use only. It may contain
confidential or legally privileged information or both. No confidentiality
or privilege is waived or lost by any mistransmission. If you receive this
correspondence in error, please immediately delete it from your system and
notify the sender. You must not disclose, copy or rely on any part of this
correspondence if you are not the intended recipient.

Any opinions expressed in this message are those of the individual sender.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 30. [ss] RE: Content Restrictions

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Fri, 17 Jan 2003 08:14:26 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115542-2003.01.16-16.01.17--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> It has been a long time since I originally subscribed to this
> reflector.  I
> have a friend that would also like to subscribe, does anyone out there
> remember how he can subscribe to this remailer.
>
> Thank You n2hdw@optonline.net

Have a look on the TAPR site, all the details are there, IIRC.

---
Outgoing mail has been scanned for Viruses
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.443 / Virus Database: 248 - Release Date: 10/01/2003

This correspondence is for the named person's use only. It may contain
confidential or legally privileged information or both. No confidentiality
or privilege is waived or lost by any mistransmission. If you receive this
correspondence in error, please immediately delete it from your system and
notify the sender. You must not disclose, copy or rely on any part of this
correspondence if you are not the intended recipient.

Any opinions expressed in this message are those of the individual sender.


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 31. [ss] RE: Content Restrictions

From: Jeff King <jeff@aerodata.net>
Date: Thu, 16 Jan 2003 17:48:00 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115565-2003.01.16-17.35.06--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Rick:


HSMM is doing it in the SSID


--
Jeff King, jeff@aerodata.net on 01/16/2003


On Wed, 15 Jan 2003 13:35:35 -0500, Hampton, Rickey L. wrote:
>Steve,
>
>With regard to station identification, how would you interpret that?
>




---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 32. [ss] Re: Content Restrictions

From: Jeff King <jeff@aerodata.net>
Date: Thu, 16 Jan 2003 17:52:18 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115566-2003.01.16-17.39.15--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Your point here?

This I assume is what you responding to:

JK>All that is missing is encryption to draw in mass the part 15 hacker's
over.

Was your point you agree a way around encryption is to post the key code
publically? But then it really isn't encryption anymore? My thought was you
log the key code in a logbook (once upon a time ham's use to have to log
every contact in a logbook). A similar thing would be done with keycodes and
dates/times they changed.

Since ham's can conduct personal business on the air, then they should have
all the protections that this demands.

All that is in the way is the rules.

--
Jeff King, jeff@aerodata.net on 01/16/2003


On Thu, 16 Jan 2003 12:46:50 -0600 (CST), Steve Lampereur wrote:
>Okay lets touch upon encryption then.  I've notices alot of hams are
>concerned about eavesdroppers grabbing our passwords.
>

>This probably isn't much of an issue for a private network, but I can
>see it being an issue when porting traffic over the internet.  Keep in
>mind how the FCC rules are stated: "An amateur station shall not
>intentionally obscure the meaning ..."  Encrypting just login & password
>strings doesn't obscure the meaning does it?  Also using encryption can
>be classified as an "unspecified" digital code, which is  permitted as
>long as you provide public documentation for it.  Which can be fulfilled
>by posting your encryption key on your internet webpage, for example.
>
>I'll admit I've used experimented with DES voice encryption using a
>Motorola MCX-100 on 2 meters.  I did what I mentioned above, posted the
>encryption key on my internet webpage.  Maybe that was a big no-no and I
>should of gotten a pink slip?

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 33. [ss] RE: Content Restrictions

From: Bill Vodall - WA7NWP <wa7nwp@yahoo.com>
Date: Thu, 16 Jan 2003 15:39:28 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115573-2003.01.16-18.26.30--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 05:48 PM 1/16/03 -0500, Jeff King wrote:

>HSMM is doing it in the SSID


I went war driving once.  Picked up 50 some access points.  4/5 were open.  One
of the 50 had a ham callsign for an SSID.   If I was an educated bad boy looking
to cause trouble, that would have been an opening to the exact name, address, phone
and shoe size of that access point's owner.

Thank you but I will continue to be use a generic group identifier.

Any similar SS Part 97 activity would be ID'ed with something like the following
PING packets

From:  http://www.qsl.net/kb9mwr/projects/wireless/pingid.html

---
Example looped ID script:
```
  #!/bin/sh
  while true
   do
     /bin/ping -c 1 -s 21 -p 574952454C455353204E4F4445 44.92.20.35 # WIRELESS NODE
     /bin/ping -c 1 -s 24 -p 464343204152532043414C4C5349474E 44.92.20.35 # FCC ARS CALLSIGN
     /bin/ping -c 1 -s 22 -p 204B42394D575220464F52204944 44.92.20.35 # KB9MWR FOR ID
     sleep 600
  done
```
----

Bill, WA7NWP


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 34. [ss] RE: Content Restrictions

From: Jeff King <jeff@aerodata.net>
Date: Thu, 16 Jan 2003 18:55:05 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115575-2003.01.16-18.42.44--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Thu, 16 Jan 2003 15:39:28 -0800, Bill Vodall - WA7NWP wrote:
>At 05:48 PM 1/16/03 -0500, Jeff King wrote:
>
>>HSMM is doing it in the SSID
>
>
>I went war driving once.  Picked up 50 some access points.  4/5 were open.
 One

>of the 50 had a ham callsign for an SSID.  If I was an educated bad boy looking
>to cause trouble, that would have been an opening to the exact name, address, phone
>and shoe size of that access point's owner.

Funny, I said the same thing about the APRS FINDU database. And you could do that sitting at home. Course, no-one believed me that someone might do this ;-)

Anyways, was just saying how they ID because no-one answered the gentlemen's question.

>Any similar SS Part 97 activity would be ID'ed with something like the following
>PING packets
>
>From:  http://www.qsl.net/kb9mwr/projects/wireless/pingid.html

Uppp.. there ya go. Another way to do it. Take your choice.

73

Jeff

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 35. [ss] Re: Content Restrictions

From: Bob Lorenzini <hwm@newportharbornet.com>
Date: Thu, 16 Jan 2003 17:26:21 -0800 (PST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115590-2003.01.16-20.13.05--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

IIRC the use of crypto to protect passwords is legal. Please don't ask me to quote the source.

Bob - wd6dod

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 36. [ss] RE: Content Restrictions

From: "Hampton, Rickey L." <RHAMPTON@PARTNERS.ORG>
Date: Thu, 16 Jan 2003 21:38:41 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115607-2003.01.16-21.25.37--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

DUH!  Why didn't I think of that!?!

If there is no such thing as a stupid question, I think I just came awful close to asking the first one.

Thanks.

-----Original Message-----
From: Jeff King [mailto:jeff@aerodata.net]
Sent: Thursday, January 16, 2003 5:48 PM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] RE: Content Restrictions

Rick:

HSMM is doing it in the SSID

--

Jeff King, jeff@aerodata.net on 01/16/2003

On Wed, 15 Jan 2003 13:35:35 -0500, Hampton, Rickey L. wrote:
>Steve,
>
>With regard to station identification, how would you interpret that?
>

---
You are currently subscribed to ss as: rhampton@partners.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 37. [ss] RE: Content Restrictions

From: "Hampton, Rickey L." <RHAMPTON@PARTNERS.ORG>
Date: Thu, 16 Jan 2003 21:47:09 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115609-2003.01.16-21.33.57--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Yeah, but what's your point?  I can simply take your call from your email address you've so kindly provided, or listen for you to make a call on the local repeater, look it up at any one of a dozen internet searchable databases, and accomplish the same thing.  And I didn't even have to leave the comfort of my own home to go on a war drive.

Rick

-----Original Message-----
From: Bill Vodall - WA7NWP [mailto:wa7nwp@yahoo.com]
Sent: Thursday, January 16, 2003 6:39 PM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] RE: Content Restrictions

At 05:48 PM 1/16/03 -0500, Jeff King wrote:

>HSMM is doing it in the SSID

I went war driving once.  Picked up 50 some access points.  4/5 were open.  One of the 50 had a ham callsign for an SSID.  If I was an educated bad boy looking to cause trouble, that would have been an opening to the exact name, address, phone
and shoe size of that access point's owner.

Thank you but I will continue to be use a generic group identifier.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 38. [ss] RE: Content Restrictions - SSID

From: Bill Vodall - WA7NWP <wa7nwp@yahoo.com>
Date: Thu, 16 Jan 2003 19:58:24 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115612-2003.01.16-22.45.14--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 09:47 PM 1/16/03 -0500, Hampton, Rickey L. wrote:
>Yeah, but what's your point?  I can simply take your call from your email

It's no big deal.  The callsign stood out amongst all the other SSIDs.  That may even be a good thing.

It was the only one where it was possible to directly gather personal information.

Bill, WA7NWP

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 39. [ss] 802.11b Identification

From: Walt DuBose <dubose@texas.net>
Date: Thu, 16 Jan 2003 22:25:46 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115614-2003.01.16-23.12.22--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Tonight some of us were talking about identification and I said that the
SSID and secondary SSID (eSSID?) and node_name are or should be
transmitted just like the SSID.

Two of our guys set up two laptops and used TCPDump to look at the
packets.  You can see the SSID and MAC OK but didn't see the node_name
which I assummed was also transmitted.  I could be that the node name
wasn't set.

Can someone confirm or deny that the node_name (a.k.a. AP Name) is/is
not transmitted so that a packet sniffer can see it?

If it IS trasnmitted, and you can capture it in a text file, I would
like a copy of the file.

Thanks & 73,

Walt/K5YFW

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 40. [ss] RE: 802.11b Identification

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Fri, 17 Jan 2003 15:33:43 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115616-2003.01.16-23.20.47--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Can someone confirm or deny that the node_name (a.k.a. AP Name) is/is
> not transmitted so that a packet sniffer can see it?
>
>
> If it IS trasnmitted, and you can capture it in a text file, I would
> like a copy of the file.

Well, Netstumbler does log AP names.

---
Outgoing mail has been scanned for Viruses
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.443 / Virus Database: 248 - Release Date: 10/01/2003

This correspondence is for the named person□s use only. It may contain
confidential or legally privileged information or both. No confidentiality
or privilege is waived or lost by any mistransmission. If you receive this
correspondence in error, please immediately delete it from your system and
notify the sender. You must not disclose, copy or rely on any part of this
correspondence if you are not the intended recipient.

Any opinions expressed in this message are those of the individual sender.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 41. [ss] Re: Content Restrictions

From: Brett Glass <brett@lariat.org>
Date: Thu, 16 Jan 2003 21:43:06 -0700
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115617-2003.01.16-23.30.00--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 12:22 PM 1/15/2003, Steve Lampereur wrote:

>Reclassifying under Part 97, imposes the standard amateur restrictions.
>Obviously the communications you make under Part 97 must be to and from

>licensed amateurs. These communications cannot be made with a pecuniary
>interest and may not be obscene or indecent.

Browsing the Web over a Part 97 link and receiving a digital ad on
one of the pages is probably a violation of the regulations. Doing
e-commerce certainly would be.

--Brett


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 42. [ss] Re: Content Restrictions

From: Jeff King <jeff@aerodata.net>
Date: Fri, 17 Jan 2003 00:06:31 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115618-2003.01.16-23.53.56--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

One word:

Pizza

You can now conduct personal business on amateur radio, buy stuff on the web,
 even occasionally sell ham gear. Just can't telecommute to your employer or
use it for your small business.

------------

2) Phone patches or autopatches involving the pecuniary interest of the
originator, or on behalf of the originator's employer, must not be conducted
at any time. The content of any patch should be such that it is clear to any
listener that such communications are not involved. Particular caution must
be observed in calling any business telephone. Calls to place an order for a
commercial product may be made such as the proverbial call to the pizza
restaurant to order food, but not calls to one's office to receive or to
leave business messages since communications on behalf of ones employer are
not permitted. Calls made in the interests of highway safety, however, such
as for the removal of injured persons from the scene of an accident or for
the removal of a disabled vehicle from a hazardous location, are permitted.

From: http://www.arrl.org/FandES/field/regulations/phone-patch.html


--
Jeff King, jeff@aerodata.net on 01/16/2003


On Thu, 16 Jan 2003 21:43:06 -0700, Brett Glass wrote:
>At 12:22 PM 1/15/2003, Steve Lampereur wrote:
>
>>Reclassifying under Part 97, imposes the standard amateur restrictions.
>>Obviously the communications you make under Part 97 must be to and from
>>licensed amateurs. These communications cannot be made with a pecuniary
>>interest and may not be obscene or indecent.
>
>Browsing the Web over a Part 97 link and receiving a digital ad on
>one of the pages is probably a violation of the regulations. Doing
>e-commerce certainly would be.
>
>--Brett
>
>
>---
>You are currently subscribed to ss as: jeff@aerodata.net
>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 43. [ss] Re: Content Restrictions

From: Stewart Teaze <horseshoe7@yahoo.com>
Date: Thu, 16 Jan 2003 21:18:50 -0800 (PST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115630-2003.01.17-00.05.44--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

--- Brett Glass <brett@lariat.org> wrote:
>
> Browsing the Web over a Part 97 link and receiving a
> digital ad on
> one of the pages is probably a violation of the
> regulations.

How can it be that there are still hams that believe
this baloney?

> Doing e-commerce certainly would be.

So - don't do E-Commerce, then.

- Stewart
http://groups.yahoo.com/group/MURS-OPEN

_____
Do you Yahoo!?
Yahoo! Mail Plus - Powerful. Affordable. Sign up now.
http://mailplus.yahoo.com

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 44. [ss] RE: 802.11b Identification

From: Walt DuBose <dubose@texas.net>
Date: Fri, 17 Jan 2003 00:17:50 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115634-2003.01.17-01.04.29--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Tony Langdon wrote:
>
> > Can someone confirm or deny that the node_name (a.k.a. AP Name) is/is
> > not transmitted so that a packet sniffer can see it?
> >
> >
> > If it IS trasnmitted, and you can capture it in a text file, I would
> > like a copy of the file.
>
> Well, Netstumbler does log AP names.
>

So since the node/AP name is "trasnmitted", then it can be used as the
ID.

If you have a text file showing this, I would appreciate having it for
my
files.

Walt/K5YFW

> ---
> Outgoing mail has been scanned for Viruses
> Checked by AVG anti-virus system (http://www.grisoft.com).
> Version: 6.0.443 / Virus Database: 248 - Release Date: 10/01/2003
>
>
> This correspondence is for the named person?s use only. It may contain
> confidential or legally privileged information or both. No confidentiality
> or privilege is waived or lost by any mistransmission. If you receive this
> correspondence in error, please immediately delete it from your system and
> notify the sender. You must not disclose, copy or rely on any part of this
> correspondence if you are not the intended recipient.
>
> Any opinions expressed in this message are those of the individual sender.
>
> ---
> You are currently subscribed to ss as: dubose@texas.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 45. [ss] Re: Content Restrictions

From: Walt DuBose <dubose@texas.net>
Date: Fri, 17 Jan 2003 00:20:54 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115635-2003.01.17-01.07.30--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Brett Glass wrote:
>
> At 12:22 PM 1/15/2003, Steve Lampereur wrote:
>
> >Reclassifying under Part 97, imposes the standard amateur restrictions.
> >Obviously the communications you make under Part 97 must be to and from
> >licensed amateurs. These communications cannot be made with a pecuniary
> >interest and may not be obscene or indecent.
>
> Browsing the Web over a Part 97 link and receiving a digital ad on
> one of the pages is probably a violation of the regulations. Doing
> e-commerce certainly would be.
>
> --Brett
>

Nope, because you, though your computer, requested the data.  Its like
calling
the the pizza place on your autopatch and getting a dating service by
mistake.

Walt/K5YFW

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 46. [ss] Re: Content Restrictions

From: Gerry Creager <gerry.creager@tamu.edu>
Date: Fri, 17 Jan 2003 08:07:02 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115694-2003.01.17-08.54.24--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

But we come back to the "ordering a pizza is not a violation" ruling.
We can get over compulsed, or try to be reasonable.  I suspect
Hollingsworth will not persecute (prosecute?) 'reasonable' when he has
so many idiots in violation these days.

73, gerry

Brett Glass wrote:
> At 12:22 PM 1/15/2003, Steve Lampereur wrote:
>
>> Reclassifying under Part 97, imposes the standard amateur restrictions.
>> Obviously the communications you make under Part 97 must be to and from
>> licensed amateurs. These communications cannot be made with a pecuniary
>> interest and may not be obscene or indecent.
>
>
> Browsing the Web over a Part 97 link and receiving a digital ad on
> one of the pages is probably a violation of the regulations. Doing
> e-commerce certainly would be.
>
> --Brett
>
>
> ---
> You are currently subscribed to ss as: gerry.creager@tamu.edu
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org


--
Gerry Creager -- gerry.creager@tamu.edu
Network Engineering -- AATLT, Texas A&M University
Office: 979.458.4020  FAX: 979.847.8578
Cell: 979.229.5301    Pager: 979.228.0173

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 47. [ss] Re: Content Restrictions

From: "Hampton, Rickey L." <RHAMPTON@PARTNERS.ORG>
Date: Fri, 17 Jan 2003 09:44:05 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115700-2003.01.17-09.31.01--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Browsing the Web over a Part 97 link and receiving a digital ad on
> one of the pages is probably a violation of the regulations. Doing
> e-commerce certainly would be.

So, my question is why are we even having this message thread at all? If I want to surf the internet, I don't need to pollute the spectrum as a Part 97 user to do it. Keep the stuff legal under Part 15 or, better yet, use CAT-5 and don't worry about it.

I would like to see Part 97 operation used for things like repeater links and remote control so we could free up some UHF spectrum and perform other functions where Part 15 clearly has no use. Why recreate the wheel? Where is the innovation in that?

Rick, WD8KEL

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 48. [ss] Re: Content Restrictions (& station control)

From: dubose@texas.net
Date: Fri, 17 Jan 2003 09:02:28 US/Central
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115704-2003.01.17-09.49.25--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hang on a minutem Gerry...lets carry this a bit more...we need to discuss this and look at what we can do what we can't do and what we want to do.

When I call Pizza Hut on the 147.38 autopatch to place an order for Pizza that I am taking to the RC meeting, I'm not communicating with an amateur radio operator. (Sir, do you want fires with that?)

So now let me really mess up your mind.

So I'm sitting at home having a nice IRC or VoIP conversation with W5MLW down the street on channel 5...we both running under Part 97. I see a connect with my SSID and a node name of Bonnie. Bonnie starts up a VoIP connect to me.

I am running Part 97 and 10 watts into a 15 db gain antenna and Bonnie is using her laptop under Part 15.

Can I talk to her?

Remember I am controlling my station just as I do when the Cub Scouts come over and I give them the mic to call CQ JOTA and make JOTA contacts...I just sit in the background and offer advice and can pull the plug at any time.

Can I legally talk to Bonnie?

What if I am away from my station and Bonnie connects? Is that legal?

Walt/K5YFW

> But we come back to the "ordering a pizza is not a violation" ruling.
> We can get over compulsed, or try to be reasonable. I suspect
> Hollingsworth will not persecute (prosecute?) 'reasonable' when he has
> so many idiots in violation these days.
>
> 73, gerry
>
> Brett Glass wrote:
> > At 12:22 PM 1/15/2003, Steve Lampereur wrote:

> >
> >> Reclassifying under Part 97, imposes the standard amateur restrictions.
> >> Obviously the communications you make under Part 97 must be to and from
> >> licensed amateurs. These communications cannot be made with a pecuniary
> >> interest and may not be obscene or indecent.
> >
> >
> > Browsing the Web over a Part 97 link and receiving a digital ad on
> > one of the pages is probably a violation of the regulations. Doing
> > e-commerce certainly would be.
> >
> > --Brett
> >
> >
> > ---
> > You are currently subscribed to ss as: gerry.creager@tamu.edu
> > To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>
> --
> Gerry Creager -- gerry.creager@tamu.edu
> Network Engineering -- AATLT, Texas A&M University
> Office: 979.458.4020  FAX: 979.847.8578
> Cell: 979.229.5301    Pager: 979.228.0173
>
>
>
> ---
> You are currently subscribed to ss as: dubose@texas.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>



---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 49. [ss] Re: Content Restrictions (& station control)

From: "Hampton, Rickey L." <RHAMPTON@PARTNERS.ORG>
Date: Fri, 17 Jan 2003 10:24:36 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115706-2003.01.17-10.11.26--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Walt,

Caveat: I'm not a lawyer, so my interpretations are worth every cent you are
paying for them.

>>When I call Pizza Hut on the 147.38 autopatch to place an order for Pizza that

I am taking to the RC meeting, I'm not communicating with an amateur radio
operator.  (Sir, do you want fires with that?)<<

But here, YOU "own" the link.  You can bring it up and you can take it down.
The pizza guy can't.

>>So I'm sitting at home having a nice IRC or VoIP conversation with W5MLW down
the street on channel 5...we both running under Part 97.  I see a connect with
my SSID and a node name of Bonnie.  Bonnie starts up a VoIP connect to me.

>>I am running Part 97 and 10 watts into a 15 db gain antenna and Bonnie is
using
her laptop under Part 15.

>>Can I talk to her?<<

If you can communicate with  Bonnie at Part 15 power levels, then I see no
problem with communicating with her... at Part 15 power levels.  If you have to
run Part 97 levels to communicate, then no, you can't communicate with her.

>>Remember I am controlling my station just as I do when the Cub Scouts come
over
and I give them the mic to call CQ JOTA and make JOTA contacts...I just sit in
the background and offer advice and can pull the plug at any time.<<

That's right.  You are the control operator, and the Cubs are using YOUR
equipment, in YOUR shack, under YOUR control.  Bonnie is not.

>>Can I legally talk to Bonnie?<<

>>What if I am away from my station and Bonnie connects?  Is that legal?<<

Only if you have your station configured to operate under Part 15 rules.

Rick Hampton, WD8KEL

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 50. [ss] Re: Content Restrictions (& station control)

From: dubose@texas.net
Date: Fri, 17 Jan 2003 09:33:12 US/Central
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115709-2003.01.17-10.19.58--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Good....good Rick...here's some more.

Back to the Pizza guy.

What if the Pizza guy has a cellphone, no LandLine?

Back to the Cub Scouts...what if I give them a wireless mic (assuming I have the rig set up with VOX).

Walt

PS, this is meant as a learning situation...no one is mad at anyone..we're all just trying to get it clear in our minds what we can and cannotdo.  If only after we come to a "block", then we can perhaps go to the ARRL Legal guys for help.

> Walt,
>
> Caveat: I'm not a lawyer, so my interpretations are worth every cent you are
> paying for them.
>
> >>When I call Pizza Hut on the 147.38 autopatch to place an order for Pizza
that
>
> I am taking to the RC meeting, I'm not communicating with an amateur radio
> operator.  (Sir, do you want fires with that?)<<
>
> But here, YOU "own" the link.  You can bring it up and you can take it down.
> The pizza guy can't.
>
> >>So I'm sitting at home having a nice IRC or VoIP conversation with W5MLW
down
> the street on channel 5...we both running under Part 97.  I see a connect
with
> my SSID and a node name of Bonnie.  Bonnie starts up a VoIP connect to me.
>
> >>I am running Part 97 and 10 watts into a 15 db gain antenna and Bonnie is
> using
> her laptop under Part 15.
>
> >>Can I talk to her?<<
>
> If you can communicate with  Bonnie at Part 15 power levels, then I see no
> problem with communicating with her... at Part 15 power levels.  If you have
to
> run Part 97 levels to communicate, then no, you can't communicate with her.
>
> >>Remember I am controlling my station just as I do when the Cub Scouts come
> over
> and I give them the mic to call CQ JOTA and make JOTA contacts...I just sit
in
> the background and offer advice and can pull the plug at any time.<<
>
> That's right.  You are the control operator, and the Cubs are using YOUR
> equipment, in YOUR shack, under YOUR control.  Bonnie is not.
>
> >>Can I legally talk to Bonnie?<<

>
> >>What if I am away from my station and Bonnie connects?  Is that legal?<<
>
> Only if you have your station configured to operate under Part 15 rules.
>
> Rick Hampton, WD8KEL
>
> ---
> You are currently subscribed to ss as: dubose@texas.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 51. [ss] Re: Content Restrictions (& station control)

From: "Hampton, Rickey L." <RHAMPTON@PARTNERS.ORG>
Date: Fri, 17 Jan 2003 12:07:54 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115726-2003.01.17-11.55.01--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>>Back to the Pizza guy.

>>What if the Pizza guy has a cellphone, no LandLine?<<

I see no difference here, Walt.  You're still connected to the same POTS and
still in control of the Part 97 portion of the link.  Whether he's using a wired
phone, a wireless phone, or a cell phone, he is part of the regulated telephone
system and you still have control of your end.

>>Back to the Cub Scouts...what if I give them a wireless mic (assuming I have
the rig set up with VOX).<<

Again, as long as you maintain control of your station, everything is legit.
Letting the kids run around with the mic in the back yard, unsupervised would
not be legit, nor would allowing them to use the wireless mic from the comfort
of their own bedroom.  Further, I would say that should someone else gain the
ability to access your station through the receiver of your wireless mic, you
would need to pull the plug on your wireless mic.

I don't see it so much an issue of what's connected to what, but an issue of who
is really in control of your station.

>>PS, this is meant as a learning situation...no one is mad at anyone..we're all

just trying to get it clear in our minds what we can and cannotdo.   If only
after we come to a "block", then we can perhaps go to the ARRL Legal guys for
help.<<

Point taken.  This wasn't my assumption either.

Rick Hampton, WD8KEL

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 52. [ss] Re: Content Restrictions

From: Jeff King <jeff@aerodata.net>
Date: Fri, 17 Jan 2003 11:46:15 -0600 (CST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115730-2003.01.17-12.33.09--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

As long as you don't order anchovies on the pizza, I don't think they would
care.

Quoting Gerry Creager <gerry.creager@tamu.edu>:

> But we come back to the "ordering a pizza is not a violation" ruling.
> We can get over compulsed, or try to be reasonable.  I suspect
> Hollingsworth will not persecute (prosecute?) 'reasonable' when he has
>
> so many idiots in violation these days.

>
> 73, gerry
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 53. [ss] ss] Re: Content Restrictions (& station control)

From: RogerKola@aol.com
Date: Fri, 17 Jan 2003 14:04:15 EST
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115757-2003.01.17-13.53.14--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Rick et all....

My question is whether we as licensed amateurs are allowed to "communicate"
with unlicensed services (ex. Part 15) within our assigned frequency bands.

If so, are we allowed to "rebroadcast" unlicensed or even licensed services?.
In the past there was much hullabaloo about accessing NOAA weather on
repeaters.  Has this been modified?

The rules keep changing and the best I can find is 97.89(a)(3) which allows
Amateurs to communicate "with any station which is AUTHORIZED by the
Commission to communicate with Amateur Radio Stations"

I don't have a copy of Part 15 rules but I don't think they address
"authorization" to communicate at all..

Times they are a changing...

Roger
WA1KAT

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 54. [ss] Re: ss] Re: Content Restrictions (& station control)

From: dubose@texas.net
Date: Fri, 17 Jan 2003 13:53:02 US/Central
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115767-2003.01.17-14.40.30--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The FCC Part 97 rules are at URL:
http://www.arrl.org/FandES/field/regulations/news/part97/

Part 97.111(a)(4) says...

  (4) Transmissions necessary to exchange messages with a station in a
  service not regulated by the FCC, but authorized by the FCC to
  communicate with amateur stations. An amateur station may exchange
  messages with a participating United States military station during an
  Armed Forces Day Communications Test.

What this really says is that we can communicate with (some) government
stations...we cannot exchange messages with a station in a service NOT
regualted by the FCC.  Part 15 IS regulated by the FCC.

Walt/K5YFW

> Hi Rick et all....
>
> My question is whether we as licensed amateurs are allowed to "communicate"
> with unlicensed services (ex. Part 15) within our assigned frequency bands.
>
> If so, are we allowed to "rebroadcast" unlicensed or even licensed services?.
> In the past there was much hullabaloo about accessing NOAA weather on
> repeaters.  Has this been modified?
>
> The rules keep changing and the best I can find is 97.89(a)(3) which allows
> Amateurs to communicate "with any station which is AUTHORIZED by the
> Commission to communicate with Amateur Radio Stations"
>
> I don't have a copy of Part 15 rules but I don't think they address
> "authorization" to communicate at all..

>
> Times they are a changing...
>
> Roger
> WA1KAT
>
> ---
> You are currently subscribed to ss as: dubose@texas.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 55. [ss] Re: ss] Re: Content Restrictions (& station control)

From: RogerKola@aol.com
Date: Fri, 17 Jan 2003 15:09:18 EST
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115769-2003.01.17-14.56.19--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

In a message dated 01/17/03 2:56:36 PM Eastern Standard Time,
dubose@texas.net writes:

> but authorized by the FCC to
>    communicate with amateur stations.

Hi Walt...

Not for disagreement, I assure you, just for discussion...

Regulation and authorization are 2 different formalities.....are part 15
devices "authorized" to communicate with amateurs.....example...local kid
puts his CB walkie talkie on 10 meters.....can we talk? assuming he is
running his 100mw under part 15...?


Simplistic I know not not clear to me...

Roger
WA1KAT

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 56. [ss] Re: ss] Re: Content Restrictions (& station control)

From: dubose@texas.net
Date: Fri, 17 Jan 2003 14:40:52 US/Central
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115774-2003.01.17-15.27.58--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Could be...I think someone is asking the FCC for clearification on this...maybe
we all better wait for the word from on high.

Walt/K5YFW

> In a message dated 01/17/03 2:56:36 PM Eastern Standard Time,
> dubose@texas.net writes:
>
> > but authorized by the FCC to
> >    communicate with amateur stations.
>
> Hi Walt...
>
> Not for disagreement, I assure you, just for discussion...
>
> Regulation and authorization are 2 different formalities.....are part 15
> devices "authorized" to communicate with amateurs.....example...local kid
> puts his CB walkie talkie on 10 meters.....can we talk? assuming he is
> running his 100mw under part 15...?
>
>
> Simplistic I know not not clear to me...
>

> Roger
> WA1KAT
>
> ---
> You are currently subscribed to ss as: dubose@texas.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 57. [ss] Re: ss] Re: Content Restrictions (& station control)

From: Bob Lorenzini <hwm@newportharbornet.com>
Date: Fri, 17 Jan 2003 13:31:42 -0800 (PST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115778-2003.01.17-16.18.33--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Fri, 17 Jan 2003 dubose@texas.net wrote:

> Could be...I think someone is asking the FCC for clearification on this...maybe
> we all better wait for the word from on high.
>

The rule is *NEVER* ask the FCC.

Bob - wd6dod

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 58. [ss] Re: ss] Re: Content Restrictions (& station control)

From: RogerKola@aol.com
Date: Fri, 17 Jan 2003 19:35:45 EST
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115792-2003.01.17-19.23.04--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have to stand corrected on my example of a CBer transmitting in 10 meters
using Part 15...it does not offer operation there...so let's move him to 80
meters AM...Part 15ers can use from 530KHz to 10 MHz...can we talk with them
on those frequencies??

Just clarifying the question...Thanks!

Roger
WA1KAT

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 59. [ss] Re: Content Restrictions

From: "Hare,Ed, W1RFI" <w1rfi@arrl.org>
Date: Fri, 17 Jan 2003 19:40:48 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115793-2003.01.17-19.27.45--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hams can order a pizza using ham radio.  The FCC doesn't permit operating for hire or pecuniary gain, or
 operating on behalf of one's employer (except for some bulletin station operation, defined in Part 97).
   As long as hams are not paid to do so, they can help the local parade, gather weather data for a
local TV station.

Is it expressly prohibited in the rules (music, obscentity, broadasting, some 3rd party traffic, etc.)?
Is it transmitted for compensation?
Does the control operator benefit financially?
Does the control operator's employer benefit financially?

If the answer to all 4 questions is no, it is permitted communication.

73,
Ed Hare, W1RFI
ARRL Lab
225 Main St
Newington, CT 06111
Tel: 860-594-0318
Internet: w1rfi@arrl.org
Web: http://www.arrl.org/tis

> -----Original Message-----
> From: Jeff King [mailto:jeff@aerodata.net]
> Sent: Friday, January 17, 2003 12:46 PM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: Content Restrictions
>
>
> As long as you don't order anchovies on the pizza, I don't
> think they would
> care.
>
>
> Quoting Gerry Creager <gerry.creager@tamu.edu>:
>
> > But we come back to the "ordering a pizza is not a
> violation" ruling.
> > We can get over compulsed, or try to be reasonable.  I suspect
> > Hollingsworth will not persecute (prosecute?) 'reasonable'
> when he has
> >
> > so many idiots in violation these days.
> >
> > 73, gerry
> >
>
> ---
> You are currently subscribed to ss as: W1RFI@ARRL.ORG
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 60. [ss] RE: Re: ss] Re: Content Restrictions (& station control)

From: "Hare,Ed, W1RFI" <w1rfi@arrl.org>
Date: Fri, 17 Jan 2003 19:41:44 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115794-2003.01.17-19.28.36--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Actually, Part 15 operation can occur on any amateur frequency.  The levels are high enough that if they
 are close, we can and will hear them.

73,
Ed Hare, W1RFI
ARRL Lab
225 Main St
Newington, CT 06111
Tel: 860-594-0318
Internet: w1rfi@arrl.org
Web: http://www.arrl.org/tis

> -----Original Message-----
> From: RogerKola@aol.com [mailto:RogerKola@aol.com]
> Sent: Friday, January 17, 2003 7:36 PM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: ss] Re: Content Restrictions (& station control)
>
>
> I have to stand corrected on my example of a CBer
> transmitting in 10 meters
> using Part 15...it does not offer operation there...so let's
> move him to 80
> meters AM...Part 15ers can use from 530KHz to 10 MHz...can we
> talk with them
> on those frequencies??

> 
> Just clarifying the question...Thanks!
> 
> Roger
> WA1KAT
> 
> ---
> You are currently subscribed to ss as: W1RFI@ARRL.ORG
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
> 
> 

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 61. [ss] Re: Re: ss] Re: Content Restrictions (& station control)

From: Walt DuBose <dubose@texas.net>
Date: Fri, 17 Jan 2003 18:47:50 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115797-2003.01.17-19.34.23--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

RogerKola@aol.com wrote:
> 
> I have to stand corrected on my example of a CBer transmitting in 10 meters
> using Part 15...it does not offer operation there...so let's move him to 80
> meters AM...Part 15ers can use from 530KHz to 10 MHz...can we talk with them
> on those frequencies??
> 
> Just clarifying the question...Thanks!
> 
> Roger
> WA1KAT
> 
> 

No because they are "controlled" by the FCC.  You can only talk to
services,
stations is you please, who are NOT controlled by the FCC.  This would
be
government stations.  And even then, you can only talk to the stations
that
the FCC says you can.

In non emergency conditions you can talk to FEMA stations, CDC stations,
FCC
stations, MARS stations, NWS stations, NDMS stations, Nat. Health
Service
stations, FBI and Secret Service Stations, some National Guard Stations,
Military stations, etc.  There are all the types of stations I have
talked
to during non emergency stations.  Oh, and experimental stations that
ARE
regulated by the FCC...put that under another set of rules.  Someone
told
me that they talked to a Federal Reserve station and another to a Corp
of
Engineers station.  Of course most of these agency stations will only
come
up during emergencies.  Also you can talk to Forestry Service stations.

Walt/K5YFW

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 62. [ss] Re: Content Restrictions

From: "Hare,Ed, W1RFI" <w1rfi@arrl.org>
Date: Fri, 17 Jan 2003 19:51:35 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115799-2003.01.17-19.38.52--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Being a regular seller in e-commerce via Part 97 would be a rules violation. Being a regular buyer for personal use would not be. If one was buying to resell it would be a violation.  Etc.

Under the conditions described in the rules, we can order stuff via Part 97.

73,
Ed Hare, W1RFI
ARRL Lab
225 Main St
Newington, CT 06111
Tel: 860-594-0318
Internet: w1rfi@arrl.org
Web: http://www.arrl.org/tis

> -----Original Message-----
> From: Stewart Teaze [mailto:horseshoe7@yahoo.com]
> Sent: Friday, January 17, 2003 12:19 AM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: Content Restrictions
>
>
>
> --- Brett Glass <brett@lariat.org> wrote:
> >
> > Browsing the Web over a Part 97 link and receiving a
> > digital ad on
> > one of the pages is probably a violation of the
> > regulations.
>
> How can it be that there are still hams that believe
> this baloney?
>
> > Doing e-commerce certainly would be.
>
> So - don't do E-Commerce, then.
>
> - Stewart
> http://groups.yahoo.com/group/MURS-OPEN
>
> _____
> Do you Yahoo!?
> Yahoo! Mail Plus - Powerful. Affordable. Sign up now.
> http://mailplus.yahoo.com
>
> ---
> You are currently subscribed to ss as: W1RFI@ARRL.ORG
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 63. [ss] Re: Content Restrictions (& station control)

From: Gerry Creager <gerry.creager@tamu.edu>
Date: Fri, 17 Jan 2003 15:05:59 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115821-2003.01.17-21.53.16--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Now you've introduced a scenario which extends the original question. I
responded directly to the original question; the pizza's legal.
Bonnie's use talking to you appears questionable to me, and her use when
no one is monitoring and controlling appears to be at odds with this use
of the rules as I understand them.

But I'm neither a lawyer, nor do I do enforcement for the FCC. Thus, my
opinions are inconsequential. However, my recounting the "Pizza
decision" is the recounting of a documented fact, and appeared to answer
the specific question originally posed.

73, gerry

dubose@texas.net wrote:
> Hang on a minutem Gerry...lets carry this a bit more...we need to discuss this
> and look at what we can do what we can't do and what we want to do.
>
> When I call Pizza Hut on the 147.38 autopatch to place an order for Pizza that
> I am taking to the RC meeting, I'm not communicating with an amateur radio

> operator.  (Sir, do you want fires with that?)
>
> So now let me really mess up your mind.
>
> So I'm sitting at home having a nice IRC or VoIP conversation with W5MLW down
> the street on channel 5...we both running under Part 97.  I see a connect with
> my SSID and a node name of Bonnie.  Bonnie starts up a VoIP connect to me.
>
> I am running Part 97 and 10 watts into a 15 db gain antenna and Bonnie is using
> her laptop under Part 15.
>
> Can I talk to her?
>
> Remember I am controlling my station just as I do when the Cub Scouts come over
> and I give them the mic to call CQ JOTA and make JOTA contacts...I just sit in
> the background and offer advice and can pull the plug at any time.
>
> Can I legally talk to Bonnie?
>
> What if I am away from my station and Bonnie connects?  Is that legal?
>
> Walt/K5YFW
>
>
>>But we come back to the "ordering a pizza is not a violation" ruling.
>>We can get over compulsed, or try to be reasonable.  I suspect
>>Hollingsworth will not persecute (prosecute?) 'reasonable' when he has
>>so many idiots in violation these days.
>>
>>73, gerry
>>
>>Brett Glass wrote:
>>
>>>At 12:22 PM 1/15/2003, Steve Lampereur wrote:
>>>
>>>
>>>>Reclassifying under Part 97, imposes the standard amateur restrictions.
>>>>Obviously the communications you make under Part 97 must be to and from
>>>>licensed amateurs. These communications cannot be made with a pecuniary
>>>>interest and may not be obscene or indecent.
>>>
>>>
>>>Browsing the Web over a Part 97 link and receiving a digital ad on
>>>one of the pages is probably a violation of the regulations. Doing
>>>e-commerce certainly would be.
>>>
>>>--Brett
>>>
>>>
>>>---
>>>You are currently subscribed to ss as: gerry.creager@tamu.edu
>>>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>>
>>
>>--
>>Gerry Creager -- gerry.creager@tamu.edu
>>Network Engineering -- AATLT, Texas A&M University
>>Office: 979.458.4020  FAX: 979.847.8578
>>Cell: 979.229.5301    Pager: 979.228.0173
>>
>>
>>
>>---
>>You are currently subscribed to ss as: dubose@texas.net
>>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>>
>
>
>
>
> ---
> You are currently subscribed to ss as: gerry.creager@tamu.edu
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--
Gerry Creager -- gerry.creager@tamu.edu
Network Engineering -- AATLT, Texas A&M University
Office: 979.458.4020  FAX: 979.847.8578

Cell: 979.229.5301    Pager: 979.228.0173

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 64. [ss] Re: Content Restrictions (& station control)

From: Walt DuBose <dubose@texas.net>
Date: Fri, 17 Jan 2003 21:58:46 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115826-2003.01.17-22.45.36--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The real answer is found in part 97.111(a)(4)...

      Transmissions necessary to exchange messages with a station in a
      service not regulated by the FCC, but authorized by the FCC to
      communicate with amateur stations. An amateur station may exchange
      messages with a participating United States military station
during an
      Armed Forces Day Communications Test.

The key words are..."a station in a service not regulated by the FCC."

Part 15 users are in a service regulated by the FCC...Part 15.  So, hams
can't talk to them.  You can talk to hams as a few other stations IF
they
call you and most of us will never have that happen unless we're in an
emergency.

But IF you have a Linux box with two RICs, one operating under Part 15
and one operating under Part 97 and the server had smtp, ftp, web, IRC,
VoIP, caching DSN, etc, both groups could share the server.  E-mail
would
be retrieved by popmail.

How about that Gerry?

BTW, hope ya'll stay warm tonight.

73 & CUL,

Walt/K5YFW


Gerry Creager wrote:
>
> Now you've introduced a scenario which extends the original question.  I
> responded directly to the original question; the pizza's legal.
> Bonnie's use talking to you appears questionable to me, and her use when
> no one is monitoring and controlling appears to be at odds with this use
> of the rules as I understand them.
>
> But I'm neither a lawyer, nor do I do enforcement for the FCC.  Thus, my
> opinions are inconsequential.  However, my recounting the "Pizza
> decision" is the recounting of a documented fact, and appeared to answer
> the specific question originally posed.
>
> 73, gerry
>
> dubose@texas.net wrote:
> > Hang on a minutem Gerry...lets carry this a bit more...we need to discuss this
> > and look at what we can do what we can't do and what we want to do.
> >
> > When I call Pizza Hut on the 147.38 autopatch to place an order for Pizza that
> > I am taking to the RC meeting, I'm not communicating with an amateur radio
> > operator.  (Sir, do you want fires with that?)
> >
> > So now let me really mess up your mind.
> >
> > So I'm sitting at home having a nice IRC or VoIP conversation with W5MLW down
> > the street on channel 5...we both running under Part 97.  I see a connect with
> > my SSID and a node name of Bonnie.  Bonnie starts up a VoIP connect to me.
> >
> > I am running Part 97 and 10 watts into a 15 db gain antenna and Bonnie is using
> > her laptop under Part 15.
> >

> > Can I talk to her?
> >
> > Remember I am controlling my station just as I do when the Cub Scouts come over
> > and I give them the mic to call CQ JOTA and make JOTA contacts...I just sit in
> > the background and offer advice and can pull the plug at any time.
> >
> > Can I legally talk to Bonnie?
> >
> > What if I am away from my station and Bonnie connects?  Is that legal?
> >
> > Walt/K5YFW
> >
> >
> >>But we come back to the "ordering a pizza is not a violation" ruling.
> >>We can get over compulsed, or try to be reasonable.  I suspect
> >>Hollingsworth will not persecute (prosecute?) 'reasonable' when he has
> >>so many idiots in violation these days.
> >>
> >>73, gerry
> >>
> >>Brett Glass wrote:
> >>
> >>>>At 12:22 PM 1/15/2003, Steve Lampereur wrote:
> >>>
> >>>
> >>>>>>Reclassifying under Part 97, imposes the standard amateur restrictions.
> >>>>>>Obviously the communications you make under Part 97 must be to and from
> >>>>>>licensed amateurs. These communications cannot be made with a pecuniary
> >>>>>>interest and may not be obscene or indecent.
> >>>
> >>>
> >>>>>Browsing the Web over a Part 97 link and receiving a digital ad on
> >>>>>one of the pages is probably a violation of the regulations. Doing
> >>>>>e-commerce certainly would be.
> >>>
> >>>>>--Brett
> >>>
> >>>
> >>>>>---
> >>>>>You are currently subscribed to ss as: gerry.creager@tamu.edu
> >>>>>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
> >>
> >>
> >>--
> >>Gerry Creager -- gerry.creager@tamu.edu
> >>Network Engineering -- AATLT, Texas A&M University
> >>Office: 979.458.4020  FAX: 979.847.8578
> >>Cell: 979.229.5301    Pager: 979.228.0173
> >>
> >>
> >>
> >>---
> >>You are currently subscribed to ss as: dubose@texas.net
> >>To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
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> > You are currently subscribed to ss as: gerry.creager@tamu.edu
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>
> --
> Gerry Creager -- gerry.creager@tamu.edu
> Network Engineering -- AATLT, Texas A&M University
> Office: 979.458.4020  FAX: 979.847.8578
> Cell: 979.229.5301    Pager: 979.228.0173
>
> ---
> You are currently subscribed to ss as: dubose@texas.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 65. [ss] Re: Content Restrictions (& station control)

From: Stewart Teaze <horseshoe7@yahoo.com>
Date: Fri, 17 Jan 2003 20:43:19 -0800 (PST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115830-2003.01.17-23.30.15--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

--- Walt DuBose <dubose@texas.net> wrote:
> The real answer is found in part 97.111(a)(4)...

Oh, please!

This stuff was written WAY before the existance of
Part 15 wireless regs.

Like the rest of digital ham radio - THE RULES ARE
TOTALLY OUT OF DATE!  I say stop being such a bunch of
pussies - either ignore this silliness and join the
wireless revolution, or get the FCC to change the
stupid rules to allow intercommunication between Part
15 and Part 97 wireless devices on compatible
frequencies (if you think it is required).  As for
myself, I don't have time for this garbage, and I
would choose to take the former route.

Digital ham radio is being LEFT IN THE DUST so fast,
it isn't funny... and you fools just sit here doing
the usual "ham thing"... endlessly debating the
rules... I suddenly fell nauseous... maybe its all
that leftover holiday turkey I've been consuming
lately - but I don't think so.

I'd be willing to petition the FCC myself, if I didn't
already know that I'd have to do battle with a
combination of anti-digital (ANALOG AND MORRIS CODE
FOREVER!), self-flagulating (WE'RE NOT WORTHY!), and
anti-change (IF IT WAS GOOD ENOUGH IN 1952, ITS GOOD
ENOUGH NOW!) types.

It simply ASTOUNDS ME... why WOULDN'T hams want to
communicate with Part 15 users?

And what's all this NONSENSE about debating endlessly
about IDing on low-power short haul digital links... I
mean, really!  Think about it for a few seconds, and
you will see how RIDICULOUS it sounds... and that it
is simply a HAM THROWBACK to the HF days... This is
the 21st century FOR CRYING OUT LOUD... change the way
we think about IDing!  Simply require that your
station respond to a FINGER request, do a broadcast,
or something similar.  It's a different world... you
can't SHOEHORN the new digital comms into old ham ways
of doing things.  I mean what REALLY CRACKS ME UP are
the guys who think we ought to ID BY MORSE CODE!
Yeah, right!... How many people would understand THAT!
 (and it would and illegal transmission, and
interfering with the channel to boot!).

- Stewart

_____
Do you Yahoo!?
Yahoo! Mail Plus - Powerful. Affordable. Sign up now.
http://mailplus.yahoo.com

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 66. [ss] Re: Content Restrictions (& station control)

From: "Eric S. Johansson" <esj@harvee.billerica.ma.us>
Date: Sat, 18 Jan 2003 08:48:01 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115861-2003.01.18-08.34.52--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Stewart Teaze wrote:
> This stuff was written WAY before the existance of
> Part 15 wireless regs.
...
> It simply ASTOUNDS ME... why WOULDN'T hams want to

> communicate with Part 15 users?

if I remember my history correctly, the reason for the separation
between part 97 content and everybody else is competition.
Specifically, competition between commercial carriers of information and
amateur radio stations.  The commercial interests did not want
competition for either broadcast or message carrying (i.e. telegrams).

the same tension exists today.  Imagine the ruckus that would be raised
by Comcast or Verizon if a combination of the amateur radio and part 15
community put together high-speed networks capable of serving
communities, schools, etc. that started stealing revenue from the big
boys.  There would be a whole bunch of new regulations in place in a
heartbeat.

so, in the quest to eliminate content/interoperability restrictions, be
careful.  We need to define it so that we can carry anything, for
anybody but not open up the door to commercial entities making use of
our frequencies.  I think some sort of restriction on getting paid for
running the station(s) would be a place to start.

By the way, history is why there is a residential/business distinction
in data service as well.  in voice service, business tariffs subsidize
residential tariffs.  In data, there is no subsidy.  It's just the way
for the bit stream suppliers to create artificial distinctions between
classes of service.  Business bits look exactly the same as residential
bits.  with some of the new services one can get over the net
(peer-to-peer networks, voice over IP, etc.) even the usage differences
between "residential" and "business" services are going away.

---eric

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 67. [ss] Re: Content Restrictions (& station control)

From: RogerKola@aol.com
Date: Sat, 18 Jan 2003 10:04:41 EST
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115874-2003.01.18-09.51.39--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Good Morning Stewart...

This is not an endless debate...it is an open discussion and decision making
process as to the evolution of AMATEUR  data communications. We are deciding
if we NEED a rule change without directly asking the FCC if we do.

It has been learned in the past that the FCC prefers that we make our own
intelligent decisions.  We are trying to do this by consensus.

Amateur Radio has the privileges we have today because we are perceived as a
self governing, rule following, public service organization which
occasionally spurs and provides technical advances.  Many of our scientists
were/are hams, it is a youth springboard to the sciences. (It's just that
some of us don't find our "youth" until much later in life).  Amateur Radio
is the ultimate 1st amendment...everyone gets to express their opinion....not
just the Press.

Civil disobedience worked for the CBers in a sliver of a frequency band, it
is doubtful that it will work in the vast expanse of our precious and now
"valuable" frequencies.

I vote to design the network, apply for the "fixes" we deem necessary for
implementation, allowing for growth, and then build it!

Off my soapbox,

Roger
WA1KAT

"No Kids, no Lids, no Space Cadets"

In a message dated 01/17/03 11:45:27 PM Eastern Standard Time,
horseshoe7@yahoo.com writes:

> This stuff was written WAY before the existence of
>  Part 15 wireless regs.
>
>  Like the rest of digital ham radio - THE RULES ARE
>  TOTALLY OUT OF DATE!  I say stop being such a bunch of
>  pussies - either ignore this silliness and join the
>  wireless revolution, or get the FCC to change the
>  stupid rules to allow intercommunication between Part
>  15 and Part 97 wireless devices on compatible
>  frequencies (if you think it is required).

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 68. [ss] Re: Content Restrictions (& station control)

From: Walt DuBose <dubose@texas.net>
Date: Sat, 18 Jan 2003 09:11:55 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115875-2003.01.18-09.58.30--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Well spoken Sir.

Walt/K5YFW

RogerKola@aol.com wrote:
>
> Good Morning Stewart...
>
> This is not an endless debate...it is an open discussion and decision making
> process as to the evolution of AMATEUR  data communications. We are deciding
> if we NEED a rule change without directly asking the FCC if we do.
>
> It has been learned in the past that the FCC prefers that we make our own
> intelligent decisions.  We are trying to do this by consensus.
>
> Amateur Radio has the privileges we have today because we are perceived as a
> self governing, rule following, public service organization which
> occasionally spurs and provides technical advances.  Many of our scientists
> were/are hams, it is a youth springboard to the sciences. (It's just that
> some of us don't find our "youth" until much later in life).  Amateur Radio
> is the ultimate 1st amendment...everyone gets to express their opinion....not
> just the Press.
>
> Civil disobedience worked for the CBers in a sliver of a frequency band, it
> is doubtful that it will work in the vast expanse of our precious and now
> "valuable" frequencies.
>
> I vote to design the network, apply for the "fixes" we deem necessary for
> implementation, allowing for growth, and then build it!
>
> Off my soapbox,
>
> Roger
> WA1KAT

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 69. [ss] Re: Content Restrictions (& station control)

From: RogerKola@aol.com
Date: Sat, 18 Jan 2003 10:35:19 EST
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-115879-2003.01.18-10.22.20--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

In a message dated 01/18/03 10:13:48 AM Eastern Standard Time,
dubose@texas.net writes:

> Well spoken Sir.
>
>  Walt/K5YFW

Thanks Walt....sometimes there is clarity in my thinking ;-)

Roger

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 70. [ss] Re: ss digest: January 18, 2003

From: "John Champa" <k8ocl@hotmail.com>
Date: Sun, 19 Jan 2003 00:58:51 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116032-2003.01.19-00.45.51--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Greeting all,

Finally,  we are at the heart of the matter!

I second Roger's motion (HI):

"...design the network, apply for the "fixes" we deem necessary for
implementation, allowing for growth, and then build it!"

It is the mission I have instilled into the ARRL HSMM WG since being given
the honor and privilege of chairing it!

Thank you, Roger, and the other insightful commenters posting this day.

Vy 73,
John - K8OCL

PS - Please check our web page on a DAILY basis for the latest developments:
  www.arrl.org/hsmm


From: "TAPR Spread Spectrum Special Interest Group digest"
<ss@lists.tapr.org>
Reply-To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
To: "ss digest recipients" <ss@lists.tapr.org>
Subject: ss digest: January 18, 2003
Date: Sun, 19 Jan 2003 00:01:16 -0500

TAPR Spread Spectrum Special Interest Group Digest for Saturday, January 18,
2003.

1. Re: Content Restrictions (& station control)
2. Re: Content Restrictions (& station control)
3. Re: Content Restrictions (& station control)
4. Re: Content Restrictions (& station control)

---

Subject: Re: Content Restrictions (& station control)
From: "Eric S. Johansson" <esj@harvee.billerica.ma.us>
Date: Sat, 18 Jan 2003 08:48:01 -0500
X-Message-Number: 1

Stewart Teaze wrote:
 > This stuff was written WAY before the existance of
 > Part 15 wireless regs.
...
 > It simply ASTOUNDS ME... why WOULDN'T hams want to
 > communicate with Part 15 users?

if I remember my history correctly, the reason for the separation
between part 97 content and everybody else is competition.
Specifically, competition between commercial carriers of information and
amateur radio stations.  The commercial interests did not want
competition for either broadcast or message carrying (i.e. telegrams).

the same tension exists today.  Imagine the ruckus that would be raised
by Comcast or Verizon if a combination of the amateur radio and part 15
community put together high-speed networks capable of serving
communities, schools, etc. that started stealing revenue from the big
boys.  There would be a whole bunch of new regulations in place in a
heartbeat.

so, in the quest to eliminate content/interoperability restrictions, be
careful.  We need to define it so that we can carry anything, for
anybody but not open up the door to commercial entities making use of
our frequencies.  I think some sort of restriction on getting paid for

running the station(s) would be a place to start.

By the way, history is why there is a residential/business distinction
in data service as well.  in voice service, business tariffs subsidize
residential tariffs.  In data, there is no subsidy.  It's just the way
for the bit stream suppliers to create artificial distinctions between
classes of service.  Business bits look exactly the same as residential
bits.  with some of the new services one can get over the net
(peer-to-peer networks, voice over IP, etc.) even the usage differences
between "residential" and "business" services are going away.

---eric

---

Subject: Re: Content Restrictions (& station control)
From: RogerKola@aol.com
Date: Sat, 18 Jan 2003 10:04:41 EST
X-Message-Number: 2

Good Morning Stewart...

This is not an endless debate...it is an open discussion and decision making
process as to the evolution of AMATEUR  data communications. We are deciding
if we NEED a rule change without directly asking the FCC if we do.

It has been learned in the past that the FCC prefers that we make our own
intelligent decisions.  We are trying to do this by consensus.

Amateur Radio has the privileges we have today because we are perceived as a
self governing, rule following, public service organization which
occasionally spurs and provides technical advances.  Many of our scientists
were/are hams, it is a youth springboard to the sciences. (It's just that
some of us don't find our "youth" until much later in life).  Amateur Radio
is the ultimate 1st amendment...everyone gets to express their
opinion....not
just the Press.

Civil disobedience worked for the CBers in a sliver of a frequency band, it
is doubtful that it will work in the vast expanse of our precious and now
"valuable" frequencies.

I vote to design the network, apply for the "fixes" we deem necessary for
implementation, allowing for growth, and then build it!

Off my soapbox,

Roger
WA1KAT

"No Kids, no Lids, no Space Cadets"

In a message dated 01/17/03 11:45:27 PM Eastern Standard Time,
horseshoe7@yahoo.com writes:

 > This stuff was written WAY before the existence of
 >  Part 15 wireless regs.
 >
 >  Like the rest of digital ham radio - THE RULES ARE
 >  TOTALLY OUT OF DATE!  I say stop being such a bunch of
 >  pussies - either ignore this silliness and join the
 >  wireless revolution, or get the FCC to change the
 >  stupid rules to allow intercommunication between Part
 >  15 and Part 97 wireless devices on compatible
 >  frequencies (if you think it is required).

---

Subject: Re: Content Restrictions (& station control)
From: Walt DuBose <dubose@texas.net>
Date: Sat, 18 Jan 2003 09:11:55 -0600
X-Message-Number: 3

Well spoken Sir.

Walt/K5YFW

RogerKola@aol.com wrote:
 >
 > Good Morning Stewart...
 >
 > This is not an endless debate...it is an open discussion and decision
making
 > process as to the evolution of AMATEUR  data communications. We are
deciding
 > if we NEED a rule change without directly asking the FCC if we do.
 >
 > It has been learned in the past that the FCC prefers that we make our own
 > intelligent decisions.  We are trying to do this by consensus.
 >
 > Amateur Radio has the privileges we have today because we are perceived
as a
 > self governing, rule following, public service organization which
 > occasionally spurs and provides technical advances.  Many of our
scientists
 > were/are hams, it is a youth springboard to the sciences. (It's just that
 > some of us don't find our "youth" until much later in life).  Amateur
Radio
 > is the ultimate 1st amendment...everyone gets to express their
opinion....not
 > just the Press.
 >
 > Civil disobedience worked for the CBers in a sliver of a frequency band,
it
 > is doubtful that it will work in the vast expanse of our precious and now
 > "valuable" frequencies.
 >
 > I vote to design the network, apply for the "fixes" we deem necessary for
 > implementation, allowing for growth, and then build it!
 >
 > Off my soapbox,
 >
 > Roger
 > WA1KAT

---

Subject: Re: Content Restrictions (& station control)
From: RogerKola@aol.com
Date: Sat, 18 Jan 2003 10:35:19 EST
X-Message-Number: 4

In a message dated 01/18/03 10:13:48 AM Eastern Standard Time,
dubose@texas.net writes:

 > Well spoken Sir.
 >
 >  Walt/K5YFW

Thanks Walt....sometimes there is clarity in my thinking ;-)

Roger

---

END OF DIGEST

---
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---
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## 71. [ss] RE: 802.11b Identification

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Mon, 20 Jan 2003 08:12:44 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116098-2003.01.19-15.59.52--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> So since the node/AP name is "trasnmitted", then it can be used as the
> ID.
>
> If you have a text file showing this, I would appreciate having it for
> my
> files.

I'd have to dig up a Netstumbler log.  If you have 802.11b equipment, just go to http://www.netstumbler.com and download Netstumbler (it's a Windows based application), and then look around your own network.  It doesn't sniff as such, just shows what APs are active and gives name, SSID, channel, whether WEP is in use or not, MAC address and other info.

---
Outgoing mail has been scanned for Viruses
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.443 / Virus Database: 248 - Release Date: 10/01/2003

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## 72. [ss] Re: Content Restrictions

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Mon, 20 Jan 2003 08:21:50 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116099-2003.01.19-16.08.49--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> I would like to see Part 97 operation used for things like
> repeater links
> and remote control so we could free up some UHF spectrum and
> perform other
> functions where Part 15 clearly has no use.  Why recreate the
> wheel?  Where
> is the innovation in that?

I agree.  The real attraction of 802.11b in the ham world is the ready availability of high speed data links.  From there, you open up the possibility of many things - to name a few:

High speed data links (now that'll get packet and APRS data moving!)

IRLP/Echolink style oprtation over ham links (now the Echolink PC users can be truly playing ham radio via 802.11b).

Multicast "virtual conferences" - allow PCs and repeaters/links to arbitrarily join multicast groups and conference with minimal use of bandwidth.

Digital ATV repeater linking - now multicast here would really be something - the easiest way to get a dozen ATV repeaters linked...

The sky's the limit, once we can get some serious bandwidth happening. :)

Obviously, we're going to have to use much more than the 2.4 GHz band, which will require some "hands on" work to make the technologies work elsewhere. But hey, we're hams, some of us can do it - I'm no RF designer, but I can work with SMDs, given a set of instructions and a schematic. :-)

Now, if we can coax 802.11a onto one or more of our bands and beef up the power.... :-)  Or 802.11g (hey, we're getting out of SS here and into straight wideband digital, so the US hams shouldn't have power restrictions

with these modes?).

---
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## 73. [ss] Re: Content Restrictions (& station control)

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Mon, 20 Jan 2003 08:29:56 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116101-2003.01.19-16.17.08--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Good....good Rick...here's some more.
>
> Back to the Pizza guy.
>
> What if the Pizza guy has a cellphone, no LandLine?

But does the cellphone use 147 MHz?  There is an intermediate gateway where
control is passed from ham to commercial telco systems.  The 802.11b
situation is more like a situation that can arise here.  There are licence
free 434 MHz radios available in VK for the general public (OK, that's a
long story of a stuffup, we won't go there... :) ).  At 20 mW EIRP, they
have been used by some hams as QRP rigs for experimentation and "to see how
far one can get".  Can a ham legally talk to "Joe Blow" who's using one of
these things legally on 434 MHz?  As it turns out, the answer is almost
certainly "no", because when you get issued your licence here, it states
that you can communicate with "amateur stations".  However, there are ways
around this, like "test transmissions" that the other user just happened to
hear and comment on.... and the ham just happened to hear those
mutterings...

---
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## 74. [ss] Re: Content Restrictions (& station control)

From: Steve Lampereur <kb9mwr@yahoo.com>
Date: Sun, 19 Jan 2003 16:44:49 -0600 (CST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116103-2003.01.19-16.28.40--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Can we legally talk to unlicensed Part 15 users on shared frequencies
under part 97?

At first I'd say no, because this is a form of broadcasting.  But maybe
one could pass some supervised Part 15 traffic as a third party
communication?  Just like using an autopatch to talk to an unlicensed
person.

Then there is the whole certification deal.  But if you have an unmodifed
Part 15 port and and Part 97 port...  Just some more crazy thinking
outloud from what I've been reading.


Using Reclassified Part 15 Wireless Ethernet Devices for Ham Radio:
http://www.qsl.net/kb9mwr/projects/wireless/plan.html


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## 75. [ss] Re: Content Restrictions

From: Alex Fraser <beatnic@comcast.net>
Date: Sun, 19 Jan 2003 18:31:17 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116126-2003.01.19-18.18.45--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Gang, my first post here, been listening for a couple of weeks.

    Hams must start thinking network and  probably IP network if they want to
stay relevant. I feel the reason to use 802.11b equipment is because it is here
and easy to network. The terms router and switch must be as well known as
amplifier or antenna tuner.  802.11 is cheap and available, of course we will
move other bands once we reach critical mass and peoples expectations create a
enough demand for ham devices on ham bands with equal of better technology than
the part 15 devices.

Skewed to the point, but I am promoting this;
    Our contests must use networking technology. Please view my ideas for Field
day
 http://www.qsl.net/n3der/fd.html



"Hampton, Rickey L." wrote:

> > Browsing the Web over a Part 97 link and receiving a digital ad on
> > one of the pages is probably a violation of the regulations. Doing
> > e-commerce certainly would be.
>
> So, my question is why are we even having this message thread at all?  If I
> want to surf the internet, I don't need to pollute the spectrum as a Part 97
> user to do it.  Keep the stuff legal under Part 15 or, better yet, use CAT-5
> and don't worry about it.
>
> I would like to see Part 97 operation used for things like repeater links
> and remote control so we could free up some UHF spectrum and perform other
> functions where Part 15 clearly has no use.  Why recreate the wheel?  Where
> is the innovation in that?
>
> Rick, WD8KEL
>
> ---
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--
>>>>>>>>>>>>>>>>----<<<<<<<<<<<<<<<<<
..... Alex Fraser  N3DER .....
..... beatnic@comcast.net .....
[~]_>^</\-[~]_>^</\-[~]_>^</\-[~]_>^<



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## 76. [ss] PSR deadline coming soon!

From: Stan Horzepa <stanzepa@earthlink.net>
Date: Sun, 19 Jan 2003 19:54:53 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116154-2003.01.19-19.57.31--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Just a reminder: If you are interested in submitting an article for TAPR's
newsletter, Packet Status Register, the deadline is the 26th, so send me
your input ASAP.

73,

Stan, WA1LOU, PSR Editor

---
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## 77. [ss] Prism test software

From: Anthony.N.Martin@marconiselenia.com
Date: Mon, 20 Jan 2003 13:27:25 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116274-2003.01.20-08.14.27--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Test software is available from intersil for prism that
  can be used to force the card into test modes. Set it for
  continuous unmodulated unspread Tx to measure the
  frequency with a counter. Set it for continous modulated
  Tx if you need to check sidebands, out-of-band emissions,
  or measure the power. You can also disable the spreading,
  although I doubt a pair of unspread prisms would sync!

  I have a legal obligation in my regs to test my station, and
  record the tests in the log. I think the authorities might be
  a little displeased if I used a WLAN card as a ham rig and didn't
  know how to measure it's frequency. This should help satisfy
  legal beagles who would be only too pleased to kick your
  ass. If you're going to argue your place in the band, you
  need to be squeaky-clean.

  http://www.intersil.com/design/prism/software-o/PrismTestUtil322.exe

  I thought this stuff was only available with a Prism chipset evaluation
kit but no, the Prism Test Appliance is here on the web.

Also Benchmark Pro - throughput test utility
http://www.intersil.com/design/prism/software-o/PrismTestUtil322.exe

More info on Prism developer's software here:
http://www.intersil.com/design/prism/ss/p2smtrx.asp#PRISM_Test_Utility_Suite

Should be usable (from MS-windows platforms) with all cards that use
Prism chipsets - incl. D-link, Linksys, SMC, etc

Of course, this OS lark is a right pain in the butt. To run
Prism tests, you need Windows. To run Ethereal on 802.11 level,
you need Linux. It would be nice if we could come up with
complete bootable CD-ROMs of each so we didn't need installs
of both and we need not be experts in both to do these tasks.
I'm careering up the learning-curve for FreeDOS at the
moment & my brain's ready to explode!

Ant M1FDE

---
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## 78. [ss] Re: Prism test software

From: "Marcelo Puhl" <mark@cpovo.net>
Date: Mon, 20 Jan 2003 13:40:02 -0200

To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116301-2003.01.20-10.26.54--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Is there a similar test software for the Proxim Symphony FH cards?

Thanks.
Mark

On 20 Jan 2003 at 13:27, Anthony.N.Martin@marconiselen wrote:

>
> Test software is available from intersil for prism that
>   can be used to force the card into test modes. Set it for
>   continuous unmodulated unspread Tx to measure the
>   frequency with a counter. Set it for continous modulated
>   Tx if you need to check sidebands, out-of-band emissions,
>   or measure the power. You can also disable the spreading,
>   although I doubt a pair of unspread prisms would sync!
>
>   I have a legal obligation in my regs to test my station, and
>   record the tests in the log. I think the authorities might be
>   a little displeased if I used a WLAN card as a ham rig and didn't
>   know how to measure it's frequency. This should help satisfy
>   legal beagles who would be only too pleased to kick your
>   ass. If you're going to argue your place in the band, you
>   need to be squeaky-clean.
>
>   http://www.intersil.com/design/prism/software-o/PrismTestUtil322.exe
>
>   I thought this stuff was only available with a Prism chipset evaluation
> kit but no, the Prism Test Appliance is here on the web.
>
> Also Benchmark Pro - throughput test utility
> http://www.intersil.com/design/prism/software-o/PrismTestUtil322.exe
>
> More info on Prism developer's software here:
> http://www.intersil.com/design/prism/ss/p2smtrx.asp#PRISM_Test_Utility_Suite
>
>
>
> Should be usable (from MS-windows platforms) with all cards that use
> Prism chipsets - incl. D-link, Linksys, SMC, etc
>
>
> Of course, this OS lark is a right pain in the butt. To run
> Prism tests, you need Windows. To run Ethereal on 802.11 level,
> you need Linux. It would be nice if we could come up with
> complete bootable CD-ROMs of each so we didn't need installs
> of both and we need not be experts in both to do these tasks.
> I'm careering up the learning-curve for FreeDOS at the
> moment & my brain's ready to explode!
>
> Ant M1FDE
>
>
>
>
> ---
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>



---
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## 79. [ss] Re: Content Restrictions (& station control)

From: Alex Fraser <beatnic@comcast.net>
Date: Mon, 20 Jan 2003 14:31:41 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116317-2003.01.20-14.18.31--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I am impatient too. When the FCC handed out this privilege I was
ecstatic. I really talked it up. Nobody I talked to in my local club
even had lute warm interest, I thought I might have radio breath or
something. Perhaps they were seeing a downside that I missed. Maybe this

was a plot by the FCC to destroy ham radio, a poisen pill? Well I now believe my uninterested local group members were not seeing some evil machination of the FCC, but in fact just missing seeing the future.

There is one thing part 15, 802.11 groups, both commercial and community based have not done and that is exist for over 10 years. It is all very new and you cannot predict what will happen (even given no external rule changes) to the WiFi groups in the next 10 years, perhaps they will choke in their own success.

I see conflicts between community based groups and commercial interests. CAWnet (Capitol Area Wireless) which I belong to has structured it's bylaws to appeal to both camps. They promote ma and pa WISPs and encourage free access points. There is a mild internal tension which could be fanned to flame by, let's say a big company buying up the Ma and Pa WISPs on the one hand or a City wide Coop winning hearts and minds on the other. I see the community based side of the part 15 groups as being natural allies to ham radio. The commercial side will never see us as anything but potential customers.

Since hams are the ones with a tradition of self discipline this is how I would like things to play out. Hams develop there own nets, part 97 only. We build a security fence around our nets (I'm trying to implement NOCAT authentication) while being very friendly, but firm with all. Once we have the fence and the skilled people to maintain it we then negotiate with the part 15 community groups for common access points or infrastructure with the proviso that we will shut off service to folks who just don't want to play ball. Perhaps some of our discipline will rub off on the community groups and perhaps some of their free spirit will rub off on the ham community. It would be a marriage made in heaven. I think the FCC would be relieved if we solve the problem nicely.

Stewart Teaze wrote:

> --- Walt DuBose <dubose@texas.net> wrote:
> > The real answer is found in part 97.111(a)(4)...
>
> Oh, please!
>
> This stuff was written WAY before the existance of
> Part 15 wireless regs.
>
> Like the rest of digital ham radio - THE RULES ARE
> TOTALLY OUT OF DATE!  I say stop being such a bunch of
> pussies - either ignore this silliness and join the
> wireless revolution, or get the FCC to change the
> stupid rules to allow intercommunication between Part
> 15 and Part 97 wireless devices on compatible
> frequencies (if you think it is required).  As for
> myself, I don't have time for this garbage, and I
> would choose to take the former route.
>
> Digital ham radio is being LEFT IN THE DUST so fast,
> it isn't funny... and you fools just sit here doing
> the usual "ham thing"... endlessly debating the
> rules... I suddenly fell nauseous... maybe its all
> that leftover holiday turkey I've been consuming
> lately - but I don't think so.
>
> I'd be willing to petition the FCC myself, if I didn't
> already know that I'd have to do battle with a
> combination of anti-digital (ANALOG AND MORRIS CODE
> FOREVER!), self-flagulating (WE'RE NOT WORTHY!), and
> anti-change (IF IT WAS GOOD ENOUGH IN 1952, ITS GOOD
> ENOUGH NOW!) types.
>
> It simply ASTOUNDS ME... why WOULDN'T hams want to
> communicate with Part 15 users?
>
> And what's all this NONSENSE about debating endlessly
> about IDing on low-power short haul digital links... I
> mean, really!  Think about it for a few seconds, and
> you will see how RIDICULOUS it sounds... and that it
> is simply a HAM THROWBACK to the HF days... This is
> the 21st century FOR CRYING OUT LOUD... change the way
> we think about IDing!  Simply require that your
> station respond to a FINGER request, do a broadcast,
> or something similar.  It's a different world... you
> can't SHOEHORN the new digital comms into old ham ways
> of doing things.  I mean what REALLY CRACKS ME UP are
> the guys who think we ought to ID BY MORSE CODE!

> Yeah, right!... How many people would understand THAT!
>  (and it would and illegal transmission, and
> interfering with the channel to boot!).
>
> - Stewart
>
> _____
> Do you Yahoo!?
> Yahoo! Mail Plus - Powerful. Affordable. Sign up now.
> http://mailplus.yahoo.com
>
> ---
> You are currently subscribed to ss as: beatnic@comcast.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

--
>>>>>>>>>>>>>>>>----<<<<<<<<<<<<<<<<<
..... Alex Fraser  N3DER .....
..... beatnic@comcast.net .....
[~]_>^</\-[~]_>^</\-[~]_>^</\-[~]_>^<

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## 80. [ss] Re: ss digest: January 18, 2003

From: Anthony.N.Martin@marconiselenia.com
Date: Mon, 20 Jan 2003 19:40:28 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116320-2003.01.20-14.27.27--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Finally,  we are at the heart of the matter!

> I second Roger's motion (HI):

> "...design the network, apply for the "fixes" we deem necessary for
> implementation, allowing for growth, and then build it!"

At first this logic makes a lot of sense...

BUT

That's the right attitude for a commercial venture.
Or a community service.

This is amateur radio.

We're here to experiment and learn, not provide a
service.

Therefore scope should exist for the experimentation
with all designs of amateur radio network, whether
they make practical sense at first sight or not.

What tha ARRL HSMM deside to do may not be what others
decide to do, and they're all entitled to their
experimental systems, whether they have yet proved
meritorious or not. We can compose an internet with
many different transports; that's how it is.
IP-over-ATM here, ADSL there, all linked up.

Without all sorts of experiments you'll never discover
anything interesting. In the commercial world we
support well-engineered systems at minimum risk and
specified availability; in an experimental world we
must support even systems we believe are doomed to
failure; the value of experiment being to demonstrate
they fail! We believe in people's right & duty to
experiment, rather than any need to deliver a service.

If we are simply erecting the black-boxes the commercial
companies make in the way they made them to operate,
we become consumers, not experimenters.

It does not make any engineering sense to change

the rules to permit the performance limitation of cheap
commercial gear. It is desirable to have some legal
framework that allows us to keep amateur bands free of
pollution. Callsigns being one tool to identify
abusers, and power and bandwidth limits being
another. Seems like some archaic pain-in-the-ass but
we need it for a reason. It's OK to say "what's the
point these days" but there *is* a point to it.

The day we have to admit we are incapable of controlling
our radios as we have handed control over to others who
write the firmware will be a sad day for amateur radio.


We need change & lots of it if we don't want ham radio
to become the vintage radio operator's club, and if we
don't want hamradio datacomms to die a death through
being totally pale compared to the internet. But I
don't think it's regulatory that's holding things back,
and I don't think rules need liberating for the reasons
that have been suggested.


Authorities have always been seen as slow to change
the rules. Expecting them to be 2 steps ahead of what
is possible is unrealistic. They are proving resonably
responsive these days to the needs of new radio services
and changes to ham licensing; I don't have great
complaints there. If there are problems with amateur
radio, I don't think we should blame them.

"It's illegal for you to carry telegrams by radio." Thus
was Marconi's Newfoundland station shut down. I hesitate
to condone Marconi's illegal transatlantic experiments; but
if you're pushing the envelope, you're in good company!



> It is the mission I have instilled into the ARRL HSMM
> WG since being given the honor and privilege of chairing it!

Mr Champa, It is not the task of the ARRL to design a network
and then ensure it is the only one allowed in the band-plans.
It is the task of the ARRL (& RSGB etc) to forsee changes
necessary to facilitate datacomms in general and implement
them, by listening to the broad spectrum of proposed
experimental systems. It may be the task of the HSMM
to provide leadership on advisory standards for
interoperability, and to encourage with vision of future
applications of multimedia. Your statement came very close
to "the HSMM system will dictate new regs". And the next
step looks like "Amateurs, your experimentation has been
done for you. And this is what you will do..."

Where links are short, or point-to-point, standards are
*not* required at the link-level; each LAN can have it's
own proprietary transport. Progress on 802.11 will outstrip
any attempt by the ARRL to lock it down. All LANs can be
interconnected at the IP level. HSMM should concentrate
on getting worldwide interoperability & portability
of applications ("eQSO software") that could run across a
"hinternet", and the infrastructure (DNS, IPv6 etc). What
we need is something to *do* with these  networks that makes
them differnet from "internet" and makes everyone else
want to jump on-board. Also we need some creative thinking
how we fund & manage continental and intercontinental
backbones at the gigabit level for multimedia QSOs to work.

We have lots of little ham WLANs; we can do that bit; but
they're not joined up. Join them up and we have thousands
of multimedia hams to contact instead of a dozen, and
suddenly it's a new ballgame. Say we all 'phone John Champa
tomorrow  and say  "Connect my WLAN to the hinternet"- can
he do it? That is the $10M question.

Do we need a new "hinternet" ISP with a mandate to
experiment with bleeding-edge services and runs things
how we like it - not with clauses to prevent subletting
bandwidth, running servers, or kick you off for using it

too much. Would such a body require a new kind of amateur
license if they used amateur spectrum to the benefit of
amateur members but was paid to do it, had shareholders,
and made investment? It might even be funded as a
research venture by multinational ISPs like "pipex".
It's the last mile that's expensive for ISPs which is
where amateur radio owns the ground. I can't get ADSL
for love nor money but if I can get a 10Mb/s hinternet
connection on the roof of an officeblock in the middle
of town, I can sort the rest... that'll do niceley!

When the "hinternet" exists it offers so much scope - one
of the first things we can pioneer is real-time chat
language translation servers. That would be one of the
biggest moves on the "international understanding" aspect
of hamradio that could ever be done and a long time coming
it's been too.

Not having to interoperate with non-amateurs and the
internet should be seen as a clear road to pioneer IPv6;
it makes no sense to use end-of-line IPv4 for a brand-new
internet, and you need the QoS features for multimedia.
Where's the fun in tired & tested old IPv4? You'd get
a lot more WLAN developer mindshare if you featured on
their IPv6 beta programme. Companies might even start
throwing hardware at you. (802.11 gear should carry
IPv6 already; it's just the config ports that are v4)


If Mr John Champa et al can deliver the vision
I'll look forward to being greatly honoured to meet
the man, as he could change the face not only of amateur
radio but the way the rest of the internet works.
For it to happen I think he's now got to stop playing
with the toys in the lab and get out there and wake
up the international and commercial support that
would make it happen. The HSMM press release is
being forwarded again & again with major interest
out here. It's been in the GB2RS news service. I've
received it several times by e-mail. More please :-)


Ant M1FDE



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## 81. [ss] Re: Possible SPAM (accuracy low): Re: ss digest: January 18, 2003

From: Geoff Edmonson <w5omr@w5omr.shacknet.nu>
Date: Mon, 20 Jan 2003 14:46:42 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116331-2003.01.20-15.32.30--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Anthony.N.Martin@marconiselenia.com wrote:
>>Finally,  we are at the heart of the matter!
>
>
>>I second Roger's motion (HI):
>
>
>>"...design the network, apply for the "fixes" we deem necessary for
>>implementation, allowing for growth, and then build it!"
>
>
>
> At first this logic makes a lot of sense...
>
> BUT
>
> That's the right attitude for a commercial venture.
> Or a community service.
>
> This is amateur radio.
>

> We're here to experiment and learn, not provide a
> service.

I respectfully disagree with that statement, Ant.

If it weren't for the service that the HAM's provide in emergencies,
lots and lots more lives would have been lost.

Wireless access for Hams would further enable us to provide our
communication "service" to those in need, in times of trouble.

The communication that hams provided after the the Twin towers in New
York were attacked is but one of gazillion examples.


--
73 = Best Regards,
-Geoff/W5OMR


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## 82. [ss] Re: ss digest: January 18, 2003

From: Jeff King <jeff@aerodata.net>
Date: Mon, 20 Jan 2003 15:13:45 -0600 (CST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116335-2003.01.20-16.00.45--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Quoting Anthony.N.Martin@marconiselenia.com:

>
> > Finally,  we are at the heart of the matter!
>
> > I second Roger's motion (HI):
>
> > "...design the network, apply for the "fixes" we deem necessary for
> > implementation, allowing for growth, and then build it!"
>
>
> At first this logic makes a lot of sense...
>
> BUT
>
> That's the right attitude for a commercial venture.
> Or a community service.
>
> This is amateur radio.
>
> We're here to experiment and learn, not provide a
> service.

Actually, might want to browse U.S. FCC rules again:

97.1(a), (right at the very front) states:

(a) Recognition and enhancement of the value of the amateur service to the
public as a voluntary noncommercial communication service, particularly with
respect to providing emergency communications.

One could easily make the case that developing something useful that people
like and use is the best way to comply with 97.1a, in the sense that the 99.99%
of the time that we don't have an emergency, the system will get beat on, and
any problems exposed when the .01% of the time it is a emergency, the system
will work good since it is so well tested. This was proven time and time again
in the 1980's with our packet networks and is not different now. You are
allowed to have fun and do something useful with amateur radio, or at least I
don't see a rule against it.

> Therefore scope should exist for the experimentation
> with all designs of amateur radio network, whether
> they make practical sense at first sight or not.


Go for it.

> What tha ARRL HSMM deside to do may not be what others
> decide to do, and they're all entitled to their
> experimental systems, whether they have yet proved
> meritorious or not. We can compose an internet with
> many different transports; that's how it is.
> IP-over-ATM here, ADSL there, all linked up.

What was that Woody Allen saying?  Oh, ya "Eighty percent of success is showing up." Like it or not, the HSMM is showing up when other groups are no-where to be seen in the spread spectrum scene.

> Without all sorts of experiments you'll never discover
> anything interesting. In the commercial world we
> support well-engineered systems at minimum risk and
> specified availability; in an experimental world we
> must support even systems we believe are doomed to
> failure; the value of experiment being to demonstrate
> they fail! We believe in people's right & duty to
> experiment, rather than any need to deliver a service.

Who is stopping you from experimenting?

> If we are simply erecting the black-boxes the commercial
> companies make in the way they made them to operate,
> we become consumers, not experimenters.

So, your solution is for amateur radio collectively to do nothing with Spread Spectrum like they have for the last 6+ years? Granted, I'd love to see a utopia that you discuss, yet in reality it simply is not happening. In other words, sometimes you need to walk before you run. Walking means designing your own antennas, amplifiers, operating practices and accesory devices before you go designing a complicated radio.

> It does not make any engineering sense to change
> the rules to permit the performance limitation of cheap
> commercial gear.

This is a hobby, meaning Joey's milk money is being used to buy ham gear. If you want the effort to succeed, it has to cost less then a military budget to buy or design the gear. The only way to do this, at this point, is to coattail on the commercial designs. Yes, I think the process gain should be greater then the 10-11db 802.11b offers, yet that is the only cost effective solution at this point to introduce into amateur radio on a widespread basis. Sometimes in life you have to be pragmatic, and this is a good example of it.

> It is desirable to have some legal
> framework that allows us to keep amateur bands free of
> pollution. Callsigns being one tool to identify
> abusers, and power and bandwidth limits being
> another. Seems like some archaic pain-in-the-ass but
> we need it for a reason. It's OK to say "what's the
> point these days" but there *is* a point to it.

Yes, it would really be ashame if we use the amateur bands for something useful, wouldn't it? This Marxist utopia that some want is going the way of the cold war. We have to justify our use of the bands, and good forbid, that means we even have to consider doing something useful with them beyond DX stamp collecting and putting up unused voice repeaters.

> The day we have to admit we are incapable of controlling
> our radios as we have handed control over to others who
> write the firmware will be a sad day for amateur radio.

????  Do you have any rig newer then 15 years old? Yes you say? OK go ahead and ask Kenwood, Icom, Yaseu or any other member of Japan Inc. for the source code. See how far you get. Yet, on the other hand, you *can* (sometimes for a price) get ahold of the source code for many SS cards such as the prism chip set and others. Further, many open source projects exist for use of these devices (such as Open-AP and others).

> We need change & lots of it if we don't want ham radio
> to become the vintage radio operator's club,

When I was 13 in 1975 with my novice license, I would wander the hamfests. Lost interest, and came back into the hobby a few years ago. The hamfests don't look a whole lot different with regards to radio technology, I mean the type that hams experiment with.

It already is a vintage radio operator's club by and large, both in 1975 and now. Most (all) of the guys in 1975 where older then me, and most of them are older then me in 2003.

> and if we
> don't want hamradio datacomms to die a death through
> being totally pale compared to the internet.

???? It already did some years ago in the U.S. Look at how many tcp/ip NOS users groups there where 8-10 years ago compared to today. Or packet BBS'es. Only APRS has grown, and just because it offers something unique that the internet can not yet meet.

But I
> don't think it's regulatory that's holding things back,
> and I don't think rules need liberating for the reasons
> that have been suggested.

I don't either. It is amateur radio that is holding amateur radio back.

> > It is the mission I have instilled into the ARRL HSMM
> > WG since being given the honor and privilege of chairing it!
>
> Mr Champa, It is not the task of the ARRL to design a network
> and then ensure it is the only one allowed in the band-plans.

No it is not. What other amateur groups are doing anything with Spread Spectrum that can be in a leadership position here?

> Where links are short, or point-to-point, standards are
> *not* required at the link-level; each LAN can have it's
> own proprietary transport. Progress on 802.11 will outstrip
> any attempt by the ARRL to lock it down.

Huh? ARRL has nothing to do with 802.11b. This so called "ARRL 802.11b" is just operating practices, and to the best of my knowledge, has nothing to do with the protocol. Just suggestions of what 802.11b channels to avoid and what suggested ones to use... you know, like a ARRL bandplan?

Actually, this brings a good point up, the term "ARRL 802.11b" is confusing, since it implies a new protocol, when in fact, at this point, it is not, nor have I seen any indications it will be. So far, this is the only disagreement I have gotten into with the group, and it was simply semantics. But your extreme response indicates to me that they may want to change it to more accurately reflect what it is. How about "ARRL 802.11b operating practices"?

> Do we need a new "hinternet" ISP with a mandate to
> experiment with bleeding-edge services and runs things
> how we like it - not with clauses to prevent subletting
> bandwidth, running servers, or kick you off for using it
> too much.

Don't confuse FCC regulations with contract law. If you subscribe to a ISP, and distribute the bandwidth, you may be in violation of your TOS (Terms of Service). This applies no matter if you under Part 97, Part 15 or running a ethernet cable down the fenceline.

In closing I'd suggest you check out the burgeoning Part 15 WLAN hobbyist market. These are the guys doing the pringle can antennas and such. IMHO, this is the future of ham radio, and if we can offer these guys a significant reason to come to part 97, life will be good.

-Jeff

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## 83. [ss] Re: Content Restrictions (& station control)

From: Anthony.N.Martin@marconiselenia.com
Date: Mon, 20 Jan 2003 21:35:21 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116340-2003.01.20-16.22.23--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Second Tx attempt - bounced - server recalibrated

> The rule is *NEVER* ask the FCC.

He hee.

There is one point in the UK Foundation licence
that the UK authorities have advised amateurs
*not* to ask for clarification of!

:-)

Making it clear would involve loads of work for
both amateurs and the authorities so it's better
nobody asks; we'll worry about it if there's
ever a problem. It'll never be clarified.

Sometimes these rules get put in just to get the
document past the higher powers with no intention
of enforcing any of it; they haven't got the
money or the staff to do it. They'd rather spend
it chasing the bad guys.

I've just noticed another anomalous UK situation:
the Foundation licensee is not given access to the
2.4GHz amateur band. But it seems reasonable that
he could use licence-free equipment on that band
to communicate with Full licensees. There is no
question of them not both being amateurs. The problem
occurs when he comes to give a callsign; using his
"M3xxx" callsign would represent him, but misrepresent
the station he was operating. He'd have to declare he
was M3xxx operating at the station of a nocall!

Whether a nocall has authority to let him use
the station is a matter for mirth and merriment.

Ant

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## 84. [ss] Re: Content Restrictions (& station control)

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Tue, 21 Jan 2003 08:41:22 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116343-2003.01.20-16.28.22--lyris.ss#tapr.org@lists.tapr.org>
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> Ma and Pa WISPs on the one hand or a City wide Coop winning hearts and
> minds on the other. I see the community based side of the
> part 15 groups
> as being natural allies to ham radio. The commercial side
> will never see
> us as anything but potential customers.

Agreed.  Actually, there's quite a strong experimental element in the
community wireless networking down here.  A lot of people are playing with
antenna designs (in fact, some of the guys in Melbourne Wireless discovered
design flaws in one published design and corrected them), links and quite a
few are learning a bit of RF theory.  I'm sure some of these people will
eventually become hams as the RF bug bites.

>     Since hams are the ones with a tradition of self
> discipline this is
> how I would like things to play out. Hams develop there own nets, part
> 97 only. We build a security fence around our nets (I'm trying to
> implement NOCAT authentication) while being very friendly,
> but firm with

Good idea.  Ham nets will need some means of authentication on a shared
band.  However, there will always be the problem of determining if the other
end is a ham, before issuing a NOCAT network logon.  This is a similar
problem to that faced by systems such as EchoLink in the VoIP world.
However, since you are likely to be more local to the ham users, you have a
better chance of meeting them fact to face and seeing their licence for
yourself, if necessary.

> all. Once we have the fence and the skilled people to maintain it we
> then negotiate with the part 15 community groups for common access
> points or infrastructure with the proviso that we will shut
> off service
> to folks who just don't want to play ball. Perhaps some of our

Good idea.

> discipline will rub off on the community groups and perhaps some of
> their free spirit will rub off on the ham community. It would be a
> marriage made in heaven. I think the FCC would be relieved if we solve
> the problem nicely.

Also, the community groups appreciate hams who are willing to help them and
be a part of their cause.  Another case of working together having mutual
benefit.  The long term effect is ham knowledge and goodwill spreads to the
unlecenced people, and in the other direction, there's an increased
awareness and interest in ham radio, more respect for hams, and the ultimate
goal of more hams who come across to discover more about radio for
themselves.

---
Outgoing mail has been scanned for Viruses
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.443 / Virus Database: 248 - Release Date: 10/01/2003

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## 85. [ss] RE: Content Restrictions

From: Anthony.N.Martin@marconiselenia.com
Date: Mon, 20 Jan 2003 21:41:49 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116344-2003.01.20-16.29.02--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Attempting retrx - bounced message - server reconfigured - Ant

> I went war driving once.  Picked up 50 some access points.  4/5 were
open.  One
> of the 50 had a ham callsign for an SSID.   If I was an educated bad boy
looking
> to cause trouble, that would have been an opening to the exact name,
address, phone

> and shoe size of that access point's owner.

What's the big deal about that?

In some countries you have to post your callsign
on you house and on your car. If some crook spots
it down-town, they could zip round your house and
nick your gear!

The whole point of ham radio is that

> Example looped ID script:
  > #!/bin/sh
  > while true
   > do
     > /bin/ping -c 1 -s 21 -p 574952454C455353204E4F4445 44.92.20.35 #
     > WIRELESS NODE
     > /bin/ping -c 1 -s 24 -p 4643432041525320434 14C4C5349474E 44.92.20.35
     #
     > FCC ARS CALLSIGN
     > /bin/ping -c 1 -s 22 -p 204B42394D575220464F52204944 44.92.20.35 #
     > KB9MWR FOR ID
     > sleep 600
  > done

  Explain what that's supposed to do.

  Remember, ping only tests the underlying IP transport.

  It makes no guarantee the given packet will leave your
  machine.

  IP will attempt to deliver the outgoing ICMP
  ECHO_REQUEST datagram the normal manner.

  This usually involves an ARP lookup to see if the
  target is on the local subnet, or if it is not, trying to
  locate a gateway (router), also using ARP request.
  The objective being to find a MAC address to
  send the packet to. So initially, what goes out is
  an ARP request packet from the protocol stack,
  not the ECHO_REQUEST.

  If ARP fails, because connectivity to other systems
  are down,  your ping packet will never be sent.
  An IP packet cannot be sent if it doesn't have a
  MAC address to send it to.

  ie. ping is not solid enough as a station ID, and it's
  no good at all as a beacon.

  I'd suggest you need a little program that sends
  broadcast packets via SOCK_RAW; they should
  always be sent on-air. BUT...

  It might also be true that your WLAN won't send *any*
  user packets (including ARP and broadcast) until it
  has sucessfully joined a BSS or an IBSS, or in the case
  of an AP, has at least one client registered with it.
  Until that happens, the WLAN ethernet port may simply
  not be open for business.

  802.11 standards are good on the interfaces but don't
  solidly define what the working innards of a WLAN MAC
  should do. One sort of infers that it might be a good
  idea to put received packets in a buffer and forward
  them in the direction of the destination. Whether a MAC
  should attempt to if it knows it's futile... "undefined".

  One might presume that WEP has the duty to protect
  any traffic on your wired network, including broadcast
  packets, and therefore even broadcast packets are
  encoded. They carry machine names, MAC addresses,
  and IP addresses, very useful to a cracker in the mood
  for a spoof. They should go to authenticated members
  of the BSS/IBSS, not to the universe. It would seem
  unlikely the system would leak clear broadcast packets
  up until the moment it joined a BSS or IBSS, and decided
  it should use WEP. This is why I suggest a WLAN won't

emit any user packets at all until it has negotiated into a
BSS or IBSS. In the unconnected state all a WLAN
will send is probes from the 802.11 MAC to find a BSS
or IBSS, responses to probes, refusals to inappropriate
requests, the 802.11 beacon if it's an AP, and the 802.1D
STP datagrams if it's a bridge.

If you set the card in promiscuous mode, things might
be different. It might leak stuff out just as much as in!

Off-air packet sniffs with Ethereal are necessary to
prove your ID message works. Don't assume.

If your ping thing works I'll eat my hat - but you'll
have to post the tcpdumps first. Who knows, the
Linux drivers might be broke ,-)

The dump on this page.
http://www.qsl.net/kb9mwr/projects/wireless/pingid.html
is tracing an established link at the ethernet level
(eth1) not the WLAN level (wlan0). And it's traced at
one of the participants in the link, not by a 3rd party
receive-only station. We know this is not a 3rd party
station as such packets would never reach the
ethernet level there. Even if the WLAN card were
set promiscuous, the bridge will know it's unable to
forward to MAC 6b:62:39:6d:77:72 .

What needs to be demonstrated is that your ID is
decoded by a 3rd party receive-only station when your
station is up, beaconing and capable of responding to
requests and no other stations are alive in the area.

The only way for hams to do WLAN off-air sniffing at
present (AFAIK) is Linux, Ethereal, a Prism card and
"prism" drivers (not hostap). There are commercial
Windows WLAN sniffers, but it's expensive software.
Ethereal will run on Windows but won't do WLAN-level
sniffing.

IMO the only way to be sure you're not breaking the law
is to test it. Use a receiver and receive your own ID. In
my regs I have a legal obligation to test my station, and
to record said tests in the log. Using the callsign is a legal
requirement as much as being on-frequency, so should be
tested. Usually we know our callsign goes out as it tends
to be a brain function, not a function of hardware. The other
hams would pipe up and bitch at us if it didn't. "CQ CQ mumble
whisle buzz buzz click! This is cough cough standing by."

Ant M1FDE

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## 86. [ss] Re: ss digest: January 18, 2003

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Tue, 21 Jan 2003 08:55:24 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116346-2003.01.20-16.42.24--lyris.ss#tapr.org@lists.tapr.org>
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> But I
> > don't think it's regulatory that's holding things back,
> > and I don't think rules need liberating for the reasons
> > that have been suggested.
>
>
> I don't either. It is amateur radio that is holding amateur
> radio back.

You've hit the nail on the head here.  Sometimes, we (as in hams in general)
are our own worst enemy - too concerned about maintaining our comfort zone
and political games to advance the art and do something _really_ useful.

I hope I don't contribute to that problem as I get older, but human nature's
not on my side, guess I'll have to periodically pinch myself and remain
vigilant against getting to set in my ways

> In closing I'd suggest you check out the burgeoning Part 15
> WLAN hobbyist
> market. These are the guys doing the pringle can antennas and
> such. IMHO, this
> is the future of ham radio, and if we can offer these guys a
> significant reason
> to come to part 97, life will be good.

Agreed, I believe this is where the next generation of ham is going to come
from, if we play our cards right.  These people will bring a fresh new
approach to the hobby.  It will be exciting, but it will also bring about a
LOT of changes to the hobby.  Even the changes brought about by IRLP,
Echolink and the new digital modes will pale by comparison to the effects a
new generation of network aware hams operating high speed data networks
could have.

There's going to be some big changes I feel (and hope), mostly for the
better.  Count me in! :)

---
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---
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## 87. [ss] Re: Content Restrictions (& station control)

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Tue, 21 Jan 2003 08:59:05 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116347-2003.01.20-16.46.14--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Second Tx attempt - bounced - server recalibrated
>
> > The rule is *NEVER* ask the FCC.
>
> He hee.
>
> There is one point in the UK Foundation licence
> that the UK authorities have advised amateurs
> *not* to ask for clarification of!

Same rule applies here, never ask the authorities, unless you know how to
phrase the question so that a standard "no" type response means "yes" for
what you want to do (which has successfully been done in the past! :) ).

---
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## 88. [ss] Re: Possible SPAM (accuracy low): Re: ss digest: January 18, 2003 <LYR27907-116331-2003.01.20-15.32.30--rwmcgwier#comcast.net@lists.tapr.org>

From: Robert McGwier <rwmcgwier@comcast.net>
Date: Mon, 20 Jan 2003 17:00:50 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116348-2003.01.20-16.48.12--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Geoff:

This discussion is typical of the disconnect between US hams
and those elsewhere.  In many countries, especially some
European countries, it is not allowed for hams to do emergency
communications.  This is primarily a ITU Region 2 thing.

Bob

---
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## 89. [ss] RE: Content Restrictions

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Tue, 21 Jan 2003 09:05:15 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116350-2003.01.20-16.52.30--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> In some countries you have to post your callsign
> on you house and on your car. If some crook spots
> it down-town, they could zip round your house and
> nick your gear!

Well, they only have to look up an online database, even without 802.11b
WLAN APs on the air...  Any packet operator can already be found out by the
bad guys armed with a copy of AGWPE and a scanner - Callsigns as MAC address
is nothing new,

Or there's the low budget approach.  Drive around and note the addresses of
any tower or mast you see, feed the addresses into an online database and
Viola!

Nothing new here...

---
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## 90. [ss] Re: Possible SPAM (accuracy low): Re: ss digest: January 18, 2003

From: Anthony.N.Martin@marconiselenia.com
Date: Mon, 20 Jan 2003 22:48:48 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116356-2003.01.20-17.36.06--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> I respectfully disagree with that statement, Ant.

> If it weren't for the service that the HAM's provide in emergencies,
> lots and lots more lives would have been lost.

I thought someone would come up with that one.

In the UK dealing with emergencies is usually a matter
for professionals, either full-time or reservists,
amateurs are rarely if ever called on.

Amateur status in UK spectrum allocations does not reflect
any emergency service status; we are not a "protected
service".

It is not anticipated that a redundant infrastructure
be created by amateurs but that whatever radio resources
exist might be accesible at some time of need. Pre-
planned service ammounts to little more than knowing
the names & whereabouts of volunteers and the installation
of an amateur radio station in local government buildings.

Amateurs have been called upon to relay information in
time of war; information was collected and fed back via
amateurs. This was at the time that the Falkland islands
were invaded by the Argentines. Whether this is emergency
use or war intelligence is a matter of debate. I can't
believe that's 20 years ago now - the British fleet went
down there and the Royal Marines and the SBS kicked butt.

The last serious event in the UK was a fuel shortage caused
by truck-drivers blockading the oil refineries in objecting
to transport taxation policy. Communications was unaffected,
getting nurses to work and food to the shops was the main
problem. And we had some problems with cattle diseases
but that was hardly an emergency. In recent history there's
not been a flood or fire that's affected more than a few
dozen houses. Cars occasionally get blown up by terrorists
particularly in Ireland but we're quite used to that.

In an emergency, availability of fuel and electricity is
a common problem and few amateurs are equipped with
systems that will run for more than a few hours without.
There's a lot of handhelds but few have mobile datacomms
equipment - when I suggest packet in my car they look at
me funny - "How can you use that when you're driving?"

I get the impression that US citizens expect to have far
more of a role in emergencies, and there are many organised
groups that perform routine functions like monitoring the
CB channel 9.

Ant

---
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## 91. [ss] Re: Possible SPAM (accuracy low): Re: ss digest: January 18, 2003

From: Gerry Creager <gerry.creager@tamu.edu>
Date: Mon, 20 Jan 2003 17:09:05 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116359-2003.01.20-17.56.58--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

You're right, someone WILL come up with this one.  Here in the US, one
of our reasons for existence is our assistance in emergencies.  And such
assistance is cyclic because periodically, the "professionals" decide
they can do it better than the "amateurs" and go off on their own.  Then
they discover:
FRS radios sans repeaters don't work well over distances exceeding a
couple of hundred meters.  Especially when all the sightseers are also
using those channels.
Cellphone emergency comms plans don't work well when the media are
trying to report to their home offices, acquire a channel and camp on it
because THEY realize that if they hang up and lose that channel, they
may never get it back.
Trunking systems fail because the traffic load went up and not only are
the public safety services using their channels, but the public works
folks are also mobilized to clean up the mess.
Sequestered systems don't always work, because they haven't been looking
at how well the hardware and network was constructed, and they've been
blind to failures that occurred since the last time they used the system.
People fail because they don't talk on the radio, don't know radio
protocol, and don't understand that it's not always a full-duplex
(telephone-like) system.

For us, being prepared to go into the field is a reality.  I realize
that's not necessarily so in other countries, but that's why it so
colors our thinking.

Let me offer one real-world system example.  I'm part of a large linked
UHF repeater network, over 50 sites just in the State of Texas.  If a
communications emergency occurs, we can... and will make this system
available for emergency traffic, and we can lock it in place so that it
appears to be a single hop to the user from any site to the State
capitol... and any other site.  It doesn't generally participate in
simulated emergency tests, but it and its control system are exercised
every day.  It's housed at commercial sites with emergency power.  The
antennas are commercial grade, as is the feedline, because an asset like
this can't do too well if its Diammond Dualbander blew apart in the
hurricane.  We're known to the radio officers and emergency managers who
count, and our contact info, commercial, PSTN, and amateur are well-known.

Basically, we have an asset that's tested and used daily, and if it goes
down, we fix it quickly for our own purposes, and don't delay it because
it's a backup to something else.

Therein lies the difference.  We're prepared to assist, as a large
number of hams in this country are in one form or another, without
having to go through some permutation to get things up, retested, figure
out how to make people work together.  In a number of groups I'm
involved with, crossing a large number of professional bounds, we're
"Practicing like we'll play."

73, gerry

Anthony.N.Martin@marconiselenia.com wrote:
>>I respectfully disagree with that statement, Ant.
>
>
>>If it weren't for the service that the HAM's provide in emergencies,
>>lots and lots more lives would have been lost.
>
>
>
> I thought someone would come up with that one.
>
>
> In the UK dealing with emergencies is usually a matter
> for professionals, either full-time or reservists,
> amateurs are rarely if ever called on.
>
> Amateur status in UK spectrum allocations does not reflect
> any emergency service status; we are not a "protected
> service".
>
> It is not anticipated that a redundant infrastructure
> be created by amateurs but that whatever radio resources
> exist might be accesible at some time of need. Pre-
> planned service ammounts to little more than knowing
> the names & whereabouts of volunteers and the installation
> of an amateur radio station in local government buildings.
>

> Amateurs have been called upon to relay information in
> time of war; information was collected and fed back via
> amateurs. This was at the time that the Falkland islands
> were invaded by the Argentines. Whether this is emergency
> use or war intelligence is a matter of debate. I can't
> believe that's 20 years ago now - the British fleet went
> down there and the Royal Marines and the SBS kicked butt.
>
>
> The last serious event in the UK was a fuel shortage caused
> by truck-drivers blockading the oil refineries in objecting
> to transport taxation policy. Communications was unaffected,
> getting nurses to work and food to the shops was the main
> problem. And we had some problems with cattle diseases
> but that was hardly an emergency. In recent history there's
> not been a flood or fire that's affected more than a few
> dozen houses. Cars occasionally get blown up by terrorists
> particularly in Ireland but we're quite used to that.
>
> In an emergency, availability of fuel and electricity is
> a common problem and few amateurs are equipped with
> systems that will run for more than a few hours without.
> There's a lot of handhelds but few have mobile datacomms
> equipment - when I suggest packet in my car they look at
> me funny - "How can you use that when you're driving?"
>
>
> I get the impression that US citizens expect to have far
> more of a role in emergencies, and there are many organised
> groups that perform routine functions like monitoring the
> CB channel 9.
>
> Ant
>
>
>
>
> ---
> You are currently subscribed to ss as: gerry.creager@tamu.edu
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org


--
Gerry Creager -- gerry.creager@tamu.edu
Network Engineering -- AATLT, Texas A&M University
Office: 979.458.4020  FAX: 979.847.8578
Cell: 979.229.5301    Pager: 979.228.0173



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## 92. [ss] Emergency comms (was Re: Possible SPAM (accuracy low): R e: ss digest: January 18, 2003)

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Tue, 21 Jan 2003 10:54:20 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116373-2003.01.20-18.41.19--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> In the UK dealing with emergencies is usually a matter
> for professionals, either full-time or reservists,
> amateurs are rarely if ever called on.
>
> Amateur status in UK spectrum allocations does not reflect
> any emergency service status; we are not a "protected
> service".

Australia is more like the US than the UK in this regard, but the profile is
much lower.  There have been many cases of amateurs being used for emergency
comms over the years - Cyclone Tracy, Newcastle earthquake, Ash Wednesday
fires, just to name a few - and a number of us have been preparing our
portable stations this summer in anticipation of a very severe fire season
(which has already started in some parts, such as Sydney last December and
Canberra last weekend).

> The last serious event in the UK was a fuel shortage caused
> by truck-drivers blockading the oil refineries in objecting
> to transport taxation policy. Communications was unaffected,
> getting nurses to work and food to the shops was the main
> problem. And we had some problems with cattle diseases
> but that was hardly an emergency. In recent history there's
> not been a flood or fire that's affected more than a few
> dozen houses. Cars occasionally get blown up by terrorists
> particularly in Ireland but we're quite used to that.

I guess it depends on the nature of your emergencies.  Like the US, we get
natural disasters that can affect wide areas - cyclones in the north,
bushfires over much of the country that can destroy hundreds of houses (402
in Canberra, last I heard).  We don't get the severe (F4, F5) tornadoes that
the US gets in our populated areas, though weak tornadoes are surprisingly
common near Melbourne and Sydney.  The big ones go mostly unreported, due to
the remote areas they tend to occur in.  Bushfire remains the single biggest
threat in this corner of Australia.

> In an emergency, availability of fuel and electricity is
> a common problem and few amateurs are equipped with
> systems that will run for more than a few hours without.
> There's a lot of handhelds but few have mobile datacomms
> equipment - when I suggest packet in my car they look at
> me funny - "How can you use that when you're driving?"

Here, I'd call it a "significant minority" of amateurs who have portable
comms independent of the mains.  I can manage 6-12 hours on HF, or over a
week on low power VHF/UHF without recharging the main standalone battery.  A
6 hour portable HF operation last weekend hardly dented the battery's
reserves..  Adding datacomms shouldn't be a problem, just need a suitable
power supply for laptops.
>
>
> I get the impression that US citizens expect to have far
> more of a role in emergencies, and there are many organised
> groups that perform routine functions like monitoring the
> CB channel 9.

Indeed,and again, we're middle of the road here as well, we have CREST to
monitor the emergency CB channels in many parts of Australia.

---
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## 93. [ss] Re: Possible SPAM (accuracy low): Re: ss digest: January 18, 2003 <LYR27907-116331-2003.01.20-15.32.30--rwmcgwier#comcast.net@lists.tapr.org>

From: Geoff Edmonson <w5omr@w5omr.shacknet.nu>
Date: Mon, 20 Jan 2003 19:26:53 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116388-2003.01.20-20.12.36--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Robert McGwier wrote:
>
> Geoff:
>
> This discussion is typical of the disconnect between US hams
> and those elsewhere.  In many countries, especially some
> European countries, it is not allowed for hams to do emergency
> communications.  This is primarily a ITU Region 2 thing.

Thanks for the clarification, Bob.

Perhaps other ITU regions could learn something from US.
;-)

--
Regards,
-Geoff

---
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## 94. [ss] Re: Prism test software

From: Walt DuBose <dubose@texas.net>
Date: Mon, 20 Jan 2003 19:42:45 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116391-2003.01.20-20.29.22--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Intersil/PRISM-2 chipsets are used in LinkSys, DLink, SMC, Cisco
Aironet, Nokia RLAN cards.

Walt

Anthony.N.Martin@marconiselenia.com wrote:
>
> Test software is available from intersil for prism that
>   can be used to force the card into test modes. Set it for
>   continuous unmodulated unspread Tx to measure the
>   frequency with a counter. Set it for continous modulated
>   Tx if you need to check sidebands, out-of-band emissions,
>   or measure the power. You can also disable the spreading,
>   although I doubt a pair of unspread prisms would sync!
>
>   I have a legal obligation in my regs to test my station, and
>   record the tests in the log. I think the authorities might be
>   a little displeased if I used a WLAN card as a ham rig and didn't
>   know how to measure it's frequency. This should help satisfy
>   legal beagles who would be only too pleased to kick your
>   ass. If you're going to argue your place in the band, you
>   need to be squeaky-clean.
>
>   http://www.intersil.com/design/prism/software-o/PrismTestUtil322.exe
>
>   I thought this stuff was only available with a Prism chipset evaluation
> kit but no, the Prism Test Appliance is here on the web.
>
> Also Benchmark Pro - throughput test utility
> http://www.intersil.com/design/prism/software-o/PrismTestUtil322.exe
>
> More info on Prism developer's software here:
> http://www.intersil.com/design/prism/ss/p2smtrx.asp#PRISM_Test_Utility_Suite
>
> Should be usable (from MS-windows platforms) with all cards that use
> Prism chipsets - incl. D-link, Linksys, SMC, etc
>
> Of course, this OS lark is a right pain in the butt. To run
> Prism tests, you need Windows. To run Ethereal on 802.11 level,
> you need Linux. It would be nice if we could come up with
> complete bootable CD-ROMs of each so we didn't need installs
> of both and we need not be experts in both to do these tasks.
> I'm careering up the learning-curve for FreeDOS at the
> moment & my brain's ready to explode!
>
> Ant M1FDE
>
> ---
> You are currently subscribed to ss as: dubose@texas.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
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## 95. [ss] Re: Possible SPAM (accuracy low): Re: ss digest: January 18, 2003

From: Thomas Sailer <sailer@scs.ch>
Date: 21 Jan 2003 03:19:49 +0100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116396-2003.01.20-21.06.07--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Mon, 2003-01-20 at 21:46, Geoff Edmonson wrote:

> The communication that hams provided after the the Twin towers in New
> York were attacked is but one of gazillion examples.

Really? If so, the ARRL hasn't used this for publicity enough, as it's
the first time I hear about this.

On Tue, 2003-01-21 at 00:09, Gerry Creager wrote:

> Cellphone emergency comms plans don't work well when the media are
> trying to report to their home offices, acquire a channel and camp on it
> because THEY realize that if they hang up and lose that channel, they
> may never get it back.

At least with GSM, you can prioritize terminals. And it works, there was
no catastrophe where GSM proved to be a problem. Christmas, New Year and
the Street Parade are probably more stressful to the GSM networks
especially with the latter you cannot physically pack more people
playing with a cellphone into a given area.

> Let me offer one real-world system example.  I'm part of a large linked
> UHF repeater network, over 50 sites just in the State of Texas.  If a
> communications emergency occurs, we can... and will make this system

What can you do? How many channels/simultaneous voice "calls" can you
make? I doubt that any ham infrastructure can provide enough bandwidth.
Besides, hams are only roughly 0.1% of the population, whereas more than
70% owns a mobile phone.

Maybe the catastrophes in the US are different, but over here,
communication tends not to be a problem. Furthermore, relying on amateur
radio communications in emergencies was tried a few times but never
really worked. So emergency communication is not something we can use to
justify the amateur radio service.

Tom

---
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## 96. [ss] RE: Content Restrictions

From: Bill Vodall - WA7NWP <wa7nwp@yahoo.com>
Date: Mon, 20 Jan 2003 19:18:37 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116401-2003.01.20-22.05.43--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 09:41 PM 1/20/03 +0000, Anthony.N.Martin@marconiselenia.com wrote:

>      > /bin/ping -c 1 -s 24 -p 4643432041525320434l4C4C5349474E 44.92.20.35
>
>
>   Explain what that's supposed to do.
>
>   Remember, ping only tests the underlying IP transport.
>
>   It makes no guarantee the given packet will leave your
>   machine.
>
>   This usually involves an ARP lookup to see if the   target is on the local subnet, or if it is not,
trying to   locate a gateway (router), also using ARP request.
>   The objective being to find a MAC address to   send the packet to. So initially, what goes out is
>   an ARP request packet from the protocol stack,   not the ECHO_REQUEST.
>
>   If ARP fails, because connectivity to other systems
>   are down,  your ping packet will never be sent.
>
>   ie. ping is not solid enough as a station ID, and it's
>   no good at all as a beacon.

Hard code the ARP entry pointing at the RF port to be identified.

Bill, WA7NWP

---
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## 97. [ss] Re: Possible SPAM (accuracy low): Re: ss digest: January 18, 2003

From: Walt DuBose <dubose@texas.net>
Date: Mon, 20 Jan 2003 21:54:53 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116403-2003.01.20-22.41.33--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Well spoken and as a user of the UHF linked system Gerry speaks of in a
real emergency...there is nothing like it in the commercial world.

Also note...and this is fact not bragging, our local weather service,
one
office, covers an area almost as larger than England.  Its 200 miles
wide and over 100 miles deep.  Our local emergency management office is
responsible for evacuation  of the Texas Gulf Coast from the Rio Grande
to Houston and 100 miles inland.

Walt

Gerry Creager wrote:
>
> You're right, someone WILL come up with this one.  Here in the US, one
> of our reasons for existence is our assistance in emergencies.  And such
> assistance is cyclic because periodically, the "professionals" decide
> they can do it better than the "amateurs" and go off on their own.  Then
> they discover:
> FRS radios sans repeaters don't work well over distances exceeding a
> couple of hundred meters.  Especially when all the sightseers are also
> using those channels.
> Cellphone emergency comms plans don't work well when the media are
> trying to report to their home offices, acquire a channel and camp on it
> because THEY realize that if they hang up and lose that channel, they
> may never get it back.
> Trunking systems fail because the traffic load went up and not only are
> the public safety services using their channels, but the public works
> folks are also mobilized to clean up the mess.
> Sequestered systems don't always work, because they haven't been looking
> at how well the hardware and network was constructed, and they've been
> blind to failures that occurred since the last time they used the system.
> People fail because they don't talk on the radio, don't know radio
> protocol, and don't understand that it's not always a full-duplex
> (telephone-like) system.
>
> For us, being prepared to go into the field is a reality.  I realize
> that's not necessarily so in other countries, but that's why it so
> colors our thinking.
>
> Let me offer one real-world system example.  I'm part of a large linked
> UHF repeater network, over 50 sites just in the State of Texas.  If a
> communications emergency occurs, we can... and will make this system
> available for emergency traffic, and we can lock it in place so that it
> appears to be a single hop to the user from any site to the State
> capitol... and any other site.  It doesn't generally participate in
> simulated emergency tests, but it and its control system are exercised
> every day.  It's housed at commercial sites with emergency power.  The
> antennas are commercial grade, as is the feedline, because an asset like
> this can't do too well if its Diammond Dualbander blew apart in the
> hurricane.  We're known to the radio officers and emergency managers who
> count, and our contact info, commercial, PSTN, and amateur are well-known.
>
> Basically, we have an asset that's tested and used daily, and if it goes
> down, we fix it quickly for our own purposes, and don't delay it because
> it's a backup to something else.
>
> Therein lies the difference.  We're prepared to assist, as a large
> number of hams in this country are in one form or another, without
> having to go through some permutation to get things up, retested, figure
> out how to make people work together.  In a number of groups I'm
> involved with, crossing a large number of professional bounds, we're

> "Practicing like we'll play."
>
> 73, gerry
>
> Anthony.N.Martin@marconiselenia.com wrote:
> >>I respectfully disagree with that statement, Ant.
> > >
> > >
> > >>If it weren't for the service that the HAM's provide in emergencies,
> > >>lots and lots more lives would have been lost.
> > >
> > >
> > >
> > > I thought someone would come up with that one.
> > >
> > >
> > > In the UK dealing with emergencies is usually a matter
> > > for professionals, either full-time or reservists,
> > > amateurs are rarely if ever called on.
> > >
> > > Amateur status in UK spectrum allocations does not reflect
> > > any emergency service status; we are not a "protected
> > > service".
> > >
> > > It is not anticipated that a redundant infrastructure
> > > be created by amateurs but that whatever radio resources
> > > exist might be accesible at some time of need. Pre-
> > > planned service ammounts to little more than knowing
> > > the names & whereabouts of volunteers and the installation
> > > of an amateur radio station in local government buildings.
> > >
> > >
> > > Amateurs have been called upon to relay information in
> > > time of war; information was collected and fed back via
> > > amateurs. This was at the time that the Falkland islands
> > > were invaded by the Argentines. Whether this is emergency
> > > use or war intelligence is a matter of debate. I can't
> > > believe that's 20 years ago now - the British fleet went
> > > down there and the Royal Marines and the SBS kicked butt.
> > >
> > >
> > > The last serious event in the UK was a fuel shortage caused
> > > by truck-drivers blockading the oil refineries in objecting
> > > to transport taxation policy. Communications was unaffected,
> > > getting nurses to work and food to the shops was the main
> > > problem. And we had some problems with cattle diseases
> > > but that was hardly an emergency. In recent history there's
> > > not been a flood or fire that's affected more than a few
> > > dozen houses. Cars occasionally get blown up by terrorists
> > > particularly in Ireland but we're quite used to that.
> > >
> > > In an emergency, availability of fuel and electricity is
> > > a common problem and few amateurs are equipped with
> > > systems that will run for more than a few hours without.
> > > There's a lot of handhelds but few have mobile datacomms
> > > equipment - when I suggest packet in my car they look at
> > > me funny - "How can you use that when you're driving?"
> > >
> > >
> > > I get the impression that US citizens expect to have far
> > > more of a role in emergencies, and there are many organised
> > > groups that perform routine functions like monitoring the
> > > CB channel 9.
> > >
> > > Ant
> > >
> > >
> > >
> > >
> > >
> > > ---
> > > You are currently subscribed to ss as: gerry.creager@tamu.edu
> > > To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
> >
> > --
> > Gerry Creager -- gerry.creager@tamu.edu
> > Network Engineering -- AATLT, Texas A&M University
> > Office: 979.458.4020  FAX: 979.847.8578
> > Cell: 979.229.5301    Pager: 979.228.0173
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---
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## 98. [ss] Re: Possible SPAM (accuracy low): Re: ss digest: January 18, 2003

From: Walt DuBose <dubose@texas.net>
Date: Mon, 20 Jan 2003 22:17:09 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116409-2003.01.20-23.03.55--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I say again...San Antonio's emergency management area extends from the
Rio Grande on the
Texas Gulf Coast to Houston and 100 miles inland.  As I remember my
geography, that's about the same land mass as England and maybe Germany.

Also, it is illegal to prioritize tariffed communications in the United
States.

Walt/K5YFW

Thomas Sailer wrote:
>
> On Mon, 2003-01-20 at 21:46, Geoff Edmonson wrote:
>
> > The communication that hams provided after the the Twin towers in New
> > York were attacked is but one of gazillion examples.
>
> Really? If so, the ARRL hasn't used this for publicity enough, as it's
> the first time I hear about this.
>
> On Tue, 2003-01-21 at 00:09, Gerry Creager wrote:
>
> > Cellphone emergency comms plans don't work well when the media are
> > trying to report to their home offices, acquire a channel and camp on it
> > because THEY realize that if they hang up and lose that channel, they
> > may never get it back.
>
> At least with GSM, you can prioritize terminals. And it works, there was
> no catastrophe where GSM proved to be a problem. Christmas, New Year and
> the Street Parade are probably more stressful to the GSM networks
> especially with the latter you cannot physically pack more people
> playing with a cellphone into a given area.
>
> > Let me offer one real-world system example.  I'm part of a large linked
> > UHF repeater network, over 50 sites just in the State of Texas.  If a
> > communications emergency occurs, we can... and will make this system
>
> What can you do? How many channels/simultaneous voice "calls" can you
> make? I doubt that any ham infrastructure can provide enough bandwidth.
> Besides, hams are only roughly 0.1% of the population, whereas more than
> 70% owns a mobile phone.
>
> Maybe the catastrophes in the US are different, but over here,
> communication tends not to be a problem. Furthermore, relying on amateur
> radio communications in emergencies was tried a few times but never
> really worked. So emergency communication is not something we can use to
> justify the amateur radio service.
>
> Tom
>
> ---
> You are currently subscribed to ss as: dubose@texas.net
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---
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## 99. [ss] RE; ss digest: January 18, 2003

From: RogerKola@aol.com
Date: Mon, 20 Jan 2003 23:36:05 EST
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116412-2003.01.20-23.23.17--lyris.ss#tapr.org@lists.tapr.org>

Rendered body type: text/plain

In a message dated 01/20/03 11:19:42 PM Eastern Standard Time, someone writes:

> Besides, hams are only roughly 0.1% of the population, whereas more than
>  > 70% owns a mobile phone.

The problem is when that 70% tries to use the cell or even the landline
telephone system at one time....the system will fail or fail to deliver...if
you need proof, try dialing a radio station during an on air "contest"

We hams are "encouraged" to be brief and efficient in our  emergency type
communications... a controlled net can handle an amazing amount of voice
traffic if it is prioritized. While a statewide "channel" will control the
net, other frequencies are assigned to move the lesser priority
communications.  Manual traffic handling is a skill which we can offer the
government in times of need.

I guess the US is just good at having disasters and the hams have always been
at the front line to bail out the communications SNAFUs. As of yet they
haven't found anyone to replace us at a lower cost.

Roger
WA1KAT

---
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## 100. [ss] RE: RE; ss digest: January 18, 2003

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Tue, 21 Jan 2003 16:04:16 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116413-2003.01.20-23.51.14--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> The problem is when that 70% tries to use the cell or even
> the landline
> telephone system at one time....the system will fail or fail
> to deliver...if
> you need proof, try dialing a radio station during an on air "contest"

And you can't control end users that easily...  Phone systems are designed
along statistical assumptions which break down during an emergency situation
(and the aforementioned radio contests :) ).
>
> We hams are "encouraged" to be brief and efficient in our
> emergency type
> communications... a controlled net can handle an amazing
> amount of voice
> traffic if it is prioritized. While a statewide "channel"

Not just encouraged, but _trained_ to be clear, concise and brief, in much
the same way the professionals are.  For me, that wasn't hard to adjust to,
because the amateurs use very similar procedures to the fire service (which
I was involved with for some time before getting my han ticket).

> will control the
> net, other frequencies are assigned to move the lesser priority
> communications.  Manual traffic handling is a skill which we
> can offer the
> government in times of need.

True, as well as being able to make the equipment work, without having to
call someone in to prepare the infrastructure - extreme flexibility.
Unfortunately, I don't have the time these days to keep my training current
(i.e. do the pre-requisite number of exercises/year), but I still make
myself and station available if needed.

---
Outgoing mail has been scanned for Viruses
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.443 / Virus Database: 248 - Release Date: 10/01/2003

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Any opinions expressed in this message are those of the individual sender.

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## 101. [ss] Vendors Support Dedicated Wi-Fi Plan

From: "Pat Snyder" <pat_snyder@sil.org>
Date: Tue, 21 Jan 2003 13:44:58 +0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116436-2003.01.21-01.34.40--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

From:

"Communications Today"
January 21, 2003
Vol. 9, No. 13

Vendors Support Dedicated Wi-Fi Plan

Some voices of support are emerging from the Wi-Fi equipment industry for the "Jumpstart Broadband Act." The newly introduced bill from Sens. Barbara Boxer (D-Calif.) and George Allen (R-Va.) calls for dedicating 255 MHz of spectrum for wireless LAN applications in the 5 Ghz band. Equipment vendor Atheros Communications (Sunnyvale, Calif.) issued a statement of support for the bill, saying it would provide the growing wireless LAN market with "scalability" needed to ensure its long-term growth among different types of devices.

Atheros also said the bill validates its belief that 5Ghz spectrum will ultimately be necessary for wireless LAN growth alongside the 2.4 Ghz band in primary use today. That unlicensed band contains only 83.5 Mhz of spectrum, and is used by a plethora of devices and applications other than Wi-Fi. A particular concern is 2.4 Ghz wireless lighting applications, which would power streetlights via RF. Such systems would effectively wipe out wireless LAN use in the vicinity.

---
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## 102. [ss] Re: Possible SPAM (accuracy low): Re: ss digest: January 18, 2003

From: Phil Karn <karn@ka9q.net>
Date: Tue, 21 Jan 2003 00:49:34 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116446-2003.01.21-03.36.37--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Geoff Edmonson wrote:

> If it weren't for the service that the HAM's provide in emergencies,
> lots and lots more lives would have been lost.

Although ham radio has played important roles in US emergencies in the past, this role is now clearly dwindling into irrelevance. If I need to call the highway patrol, I pick up my cell phone. I don't even carry my 2m ham rig anymore.

Those who say that the ham repeaters still work in the bigger disasters when the cellular system are overloaded should carefully consider what they're saying about our small numbers, restrictive rules and generous frequency allocations. Besides, the newer cellular networks *do* implement access priority schemes. And the real issue in any major disaster is capacity, something we still don't have despite our generous frequency allocations because our technology is so primitive and inefficient.

There's only one reason left for ham radio's existence, and it has nothing to do with providing any operational service. It's EDUCATION. Ham radio is still totally unique in the hands-on educational opportunities it provides, and I'd really hate to see that disappear.

Phil

---
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## 103. [ss] Re: Emergency comms (was Re: Possible SPAM (accuracy low): R e: ss digest: January 18, 2003)

From: Hamish Moffatt <hamish@cloud.net.au>
Date: Tue, 21 Jan 2003 20:42:36 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116453-2003.01.21-04.29.36--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Tue, Jan 21, 2003 at 10:54:20AM +1100, Tony Langdon wrote:
> > In the UK dealing with emergencies is usually a matter
> > for professionals, either full-time or reservists,
> > amateurs are rarely if ever called on.
> >
> > Amateur status in UK spectrum allocations does not reflect
> > any emergency service status; we are not a "protected
> > service".
>
> Australia is more like the US than the UK in this regard, but the profile is
> much lower.  There have been many cases of amateurs being used for emergency
> comms over the years - Cyclone Tracy, Newcastle earthquake, Ash Wednesday
> fires, just to name a few - and a number of us have been preparing our
> portable stations this summer in anticipation of a very severe fire season
> (which has already started in some parts, such as Sydney last December and
> Canberra last weekend).

Actually I would say we are more like the UK. The ACA's description of
the amateur service does not include any reference to emergency
communications. And the three examples you gave are spread over 26
years! Thus qualifying as "rarely .. called on" IMHO.

Hamish
--
Hamish Moffatt VK3SB <hamish@debian.org> <hamish@cloud.net.au>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
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## 104. [ss] Re: Possible SPAM (accuracy low): Re: ss digest: January 18, 2003

From: dubose@texas.net
Date: Tue, 21 Jan 2003 09:04:16 US/Central
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116472-2003.01.21-09.51.17--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Phil,

I rarely disagree with you, but this time you are dead wrong.

Generally restrictive rules go out the window during emergency communications
if they are preventing you from accomplishing your basic task.  This does not
mean that you blantely ignore them; but do bypass them as necessary to do your
job.  I don't think I have herd of a single case where the FCC has taken an
amateur radio operator to task for "violation" of Part 97 rules in a valid
communications emergency where the rules were preventing the successful
completion of the communnications effort.

I work in emergency communications with the City of San Antonio's Office of
Emergency Management.  When a hurricane of other severe weather "hits" the
Texas Gulf Coast, amateur radio communications become just as important to the
success of the relief effort as any other part of the effort.

Not only do repeaters and especially linked repeater systems hold an important
place; but, QRO HF stations become one of the most valuable assist an emergency
manager has.

It is true that we need to have a greater capability to handle volume traffic,
and I think we as amateur radio operators are NOW addressing it.

But the ARRL 802.11b is not enough.  We need high bandwidth capability on UHF
as well as VHF (if possible).  We also desperately need a robust, high

bandwidth, high data throughput capability on the HF bands.

I think the amateur radio community owes deploying this technology to the
nation.

I must also admit that our function in providing an educational opportunity to
the educational system is important; but to put one or above the other tends to
make both weaker...at least that seems to be how human nature works.

73,

Walt/K5YFW

> Geoff Edmonson wrote:
>
> > If it weren't for the service that the HAM's provide in emergencies,
> > lots and lots more lives would have been lost.
>
> Although ham radio has played important roles in US emergencies in the
> past, this role is now clearly dwindling into irrelevance. If I need to
> call the highway patrol, I pick up my cell phone. I don't even carry my
> 2m ham rig anymore.
>
> Those who say that the ham repeaters still work in the bigger disasters
> when the cellular system are overloaded should carefully consider what
> they're saying about our small numbers, restrictive rules and generous
> frequency allocations. Besides, the newer cellular networks *do*
> implement access priority schemes. And the real issue in any major
> disaster is capacity, something we still don't have despite our generous
> frequency allocations because our technology is so primitive and
> inefficient.
>
> There's only one reason left for ham radio's existence, and it has
> nothing to do with providing any operational service. It's EDUCATION.
> Ham radio is still totally unique in the hands-on educational
> opportunities it provides, and I'd really hate to see that disappear.
>
> Phil
>
>
> ---
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---
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## 105. [ss] Re: Prism test software

From: Gerry Creager <gerry.creager@tamu.edu>
Date: Tue, 21 Jan 2003 10:04:46 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116478-2003.01.21-10.51.55--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

And on a different note:  I've got to eval some 802.11a and g hardware
(linksys) and I'm looking for any possible drivers for the WPC54G and
WPC51AB PCCard NICs for Linux.  Anyone got suggestions?

TIA, gerry

Walt DuBose wrote:
> Intersil/PRISM-2 chipsets are used in LinkSys, DLink, SMC, Cisco
> Aironet, Nokia RLAN cards.
>
> Walt
>
> Anthony.N.Martin@marconiselenia.com wrote:
>
>>Test software is available from intersil for prism that
>>  can be used to force the card into test modes. Set it for
>>  continuous unmodulated unspread Tx to measure the
>>  frequency with a counter. Set it for continous modulated
>>  Tx if you need to check sidebands, out-of-band emissions,
>>  or measure the power. You can also disable the spreading,
>>  although I doubt a pair of unspread prisms would sync!

>>
>>  I have a legal obligation in my regs to test my station, and
>>  record the tests in the log. I think the authorities might be
>>  a little displeased if I used a WLAN card as a ham rig and didn't
>>  know how to measure it's frequency. This should help satisfy
>>  legal beagles who would be only too pleased to kick your
>>  ass. If you're going to argue your place in the band, you
>>  need to be squeaky-clean.
>>
>>  http://www.intersil.com/design/prism/software-o/PrismTestUtil322.exe
>>
>>  I thought this stuff was only available with a Prism chipset evaluation
>>kit but no, the Prism Test Appliance is here on the web.
>>
>>Also Benchmark Pro - throughput test utility
>>http://www.intersil.com/design/prism/software-o/PrismTestUtil322.exe
>>
>>More info on Prism developer's software here:
>>http://www.intersil.com/design/prism/ss/p2smtrx.asp#PRISM_Test_Utility_Suite
>>
>>Should be usable (from MS-windows platforms) with all cards that use
>>Prism chipsets - incl. D-link, Linksys, SMC, etc
>>
>>Of course, this OS lark is a right pain in the butt. To run
>>Prism tests, you need Windows. To run Ethereal on 802.11 level,
>>you need Linux. It would be nice if we could come up with
>>complete bootable CD-ROMs of each so we didn't need installs
>>of both and we need not be experts in both to do these tasks.
>>I'm careering up the learning-curve for FreeDOS at the
>>moment & my brain's ready to explode!
>>
>>Ant M1FDE
>>
>>---
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>
>
> ---
> You are currently subscribed to ss as: gerry.creager@tamu.edu
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--
Gerry Creager -- gerry.creager@tamu.edu
Network Engineering -- AATLT, Texas A&M University
Office: 979.458.4020  FAX: 979.847.8578
Cell: 979.229.5301    Pager: 979.228.0173



---
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## 106. [ss] Re: Possible SPAM (accuracy low): Re: ss digest: January 18, 2003

From: Gerry Creager <gerry.creager@tamu.edu>
Date: Tue, 21 Jan 2003 12:35:41 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116499-2003.01.21-13.22.48--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thomas Sailer wrote:
> On Mon, 2003-01-20 at 21:46, Geoff Edmonson wrote:
>
>
>>The communication that hams provided after the the Twin towers in New
>>York were attacked is but one of gazillion examples.
>
>
> Really? If so, the ARRL hasn't used this for publicity enough, as it's
> the first time I hear about this.

I've talked to folks who were involved in this effort.  Participants
were from a lot of areas, even exceeding the Metro New york City area.
Apparently, the efforts were significant enough to last well beyond the
immediate first few days.  Why the publicity hasn't been forthcoming,
I'll probably never be able to divine.

> On Tue, 2003-01-21 at 00:09, Gerry Creager wrote:
>
>>Cellphone emergency comms plans don't work well when the media are
>>trying to report to their home offices, acquire a channel and camp on it
>>because THEY realize that if they hang up and lose that channel, they
>>may never get it back.
>
> At least with GSM, you can prioritize terminals. And it works, there was
> no catastrophe where GSM proved to be a problem. Christmas, New Year and
> the Street Parade are probably more stressful to the GSM networks
> especially with the latter you cannot physically pack more people
> playing with a cellphone into a given area.

GSM rollout is just kicking into gear in the US.  Our best efforts at
2.5 and 3G are fairly small, and limited to the larger markets, still.
Analog and digital systems that lack channel prioritization are still
what I find in the hinterlands of Texas.

>>Let me offer one real-world system example.  I'm part of a large linked
>>UHF repeater network, over 50 sites just in the State of Texas.  If a
>>communications emergency occurs, we can... and will make this system
>
>
> What can you do? How many channels/simultaneous voice "calls" can you
> make? I doubt that any ham infrastructure can provide enough bandwidth.
> Besides, hams are only roughly 0.1% of the population, whereas more than
> 70% owns a mobile phone.

The issue and concern is usually handling traffic for emergency
management and public safety.  In some cases, it's low priority traffic
that frees them up for "more important" tasks.  In others, it's handling
higher priority traffic, including managing the requests for specific
hardware, equipment, drugs, personnel, etc.

You confuse "channel capacity" with emergency communications.  While we
may not handle more "channels," we can often handle a significant
traffic load, in a conventional communications format.


> Maybe the catastrophes in the US are different, but over here,
> communication tends not to be a problem. Furthermore, relying on amateur
> radio communications in emergencies was tried a few times but never
> really worked. So emergency communication is not something we can use to
> justify the amateur radio service.

Our utility in emergency communications is embedded in our Federal
charter.  And while I suspect communications emergencies are similar the
world over, your lack of a charter for such events would tend to make
you less available to participate.  It's, as much as anything, a
cultural issue, and has been already raised, it's an "ITU 2" thing.  In
some ways, it's hard to explain to someone without that mandate and mindset.
--
Gerry Creager -- gerry.creager@tamu.edu
Network Engineering -- AATLT, Texas A&M University
Office: 979.458.4020  FAX: 979.847.8578
Cell: 979.229.5301    Pager: 979.228.0173

---
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## 107. [ss] Re: Prism test software

From: "Joshua Davis, KD5LSX" <kd5lsx@earthlink.net>
Date: Tue, 21 Jan 2003 13:24:23 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116501-2003.01.21-14.11.40--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

802.11 cards [of the same chipset] are pretty much the same up until you get
to the radio portion. If the orinoco driver works for the WPC11, I don't see
why it wouldn't work for the WPC54G. But then again, it just a guess.

Joshua/KD5LSX

> -----Original Message-----
> From: bounce-ss-31026@lists.tapr.org
> [mailto:bounce-ss-31026@lists.tapr.org]On Behalf Of Gerry Creager

> Sent: Tuesday, January 21, 2003 10:05 AM
> To: TAPR Spread Spectrum Special Interest Group
> Subject: [ss] Re: Prism test software
>
>
> And on a different note:  I've got to eval some 802.11a and g hardware
> (linksys) and I'm looking for any possible drivers for the WPC54G and
> WPC51AB PCCard NICs for Linux.  Anyone got suggestions?
>
> TIA, gerry

---
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## 108. [ss] Re: Possible SPAM (accuracy low): Re: ss digest: January 18, 2003

From: Anthony.N.Martin@marconiselenia.com
Date: Tue, 21 Jan 2003 19:32:39 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116502-2003.01.21-14.19.43--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Remember the military have signals divisions that can
deploy a communications infrastructure in any location
inside a day. I don't have the helicopters, amphibious
vehicles & all-wheel-drive trucks to touch that.

They can deploy the supply lines to maintain it in place
for extended periods too. Replacement operators, fuel,
mobile canteens, whatever.

They have far more experience of having to do it
for real in places like Kosovo, Afghanistan...

Military radios are designed to be stuck on a hill and
rained on, or bounced over rubble in the back of a truck,
and operated by a man with frozen hands, dirty gloves, and
a gas mask. They work automatically into bad temporary
antennas without giving up. Most  hams would be horrified
to treat their pride & joy like this.

The military would typically deploy a trunked line-of-sight
microwave multiplex system with repeaters to serve a
temporary HQ with telephones, FAX & datacomms, and
use tactical 30-88MHz FM VHF vehicle & belt-packs in
the field. HF would be used if the terrain required it.

I was just thinking. I design these radios for solders out
there in the dirt and under pressure saving people's ass.
Here I am assuming they're not going to be there where
people's asses need saving. Sure as hell they are. The
military is a well-respected profession in the UK - they are
prepared, they go into danger, and they deliver. They
are trained to stay cool and take action when anyone
else would run like hell.

We don't normally need the military but the power is
there.

Ant

Anyway, we've gone well OT I'll try and bring all
this to a close.

---
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## 109. [ss] Re: Possible SPAM (accuracy low): Re: ss digest: January 18, 2003

From: RogerKola@aol.com
Date: Tue, 21 Jan 2003 14:51:54 EST
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116505-2003.01.21-14.38.59--lyris.ss#tapr.org@lists.tapr.org>

Rendered body type: text/plain

In a message dated 01/21/03 2:34:58 PM Eastern Standard Time,
Anthony.N.Martin@marconiselenia.com writes:

> Remember the military have signals divisions that can
>  deploy a communications infrastructure in any location
>  inside a day. I don't have the helicopters, amphibious
>  vehicles & all-wheel-drive trucks to touch that.

In the US the Military cannot be deployed inside our borders by law, the
National Guard is controlled by the states to do that...but they are only
poor cousins and I think since Kent State they even took ammunition away from
them let alone give them decent communications equipment. All other
communications, government, business, public safety are on a mish-mash of
frequencies from 30MHz through NEXTEL at 1.8 GHZ and nobody but the hams can
talk to each other.

In the local area, during bad snowstorms, Hams have been dispatched along
with National Guard drivers to provide communications because either the
trucks had no radios, they couldn't keep th Lowband VHF radios on the same
frequency or they just didn't know how to operate them.

BTW...I'm gently trying to stay out of current Politics and the Military here.

Roger
WA1KAT

---
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## 110. [ss] Re: Emergency comms (was Re: Possible SPAM (accuracy low ): R e: ss digest: January 18, 2003)

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Wed, 22 Jan 2003 08:11:11 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116513-2003.01.21-15.58.15--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Actually I would say we are more like the UK. The ACA's description of
> the amateur service does not include any reference to emergency
> communications. And the three examples you gave are spread over 26
> years! Thus qualifying as "rarely .. called on" IMHO.

I did say middle of the road.  the European case sounded more like "almost
never"...  We're "rarely"... :)

---
Outgoing mail has been scanned for Viruses
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.443 / Virus Database: 248 - Release Date: 10/01/2003

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## 111. [ss] Re: Possible SPAM (accuracy low): Re: ss digest: January 18, 2003

From: Phil Karn <karn@ka9q.net>
Date: Tue, 21 Jan 2003 13:15:08 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116514-2003.01.21-16.02.09--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

dubose@texas.net wrote:
> Phil,
>
> I rarely disagree with you, but this time you are dead wrong.

About what? I'm not sure.

> Generally restrictive rules go out the window during emergency communications
> if they are preventing you from accomplishing your basic task.

I didn't say that; I know what the rules say about emergencies.

I did not say that ham radio plays *no* role in emergency communications. I said that it plays a role that is rapidly dwindling into irrelevance. This is a fact. We're not just competing with cell phones that carry voice; we're talking about the rapid commercial deployment of a wide variety of Internet access services using both wired and wireless technologies, centralized and distributed. Among the wireless technologies, besides GPRS, there's CDMA2000 1x and 1xEV-DO. There's Ricochet (in some cities). Geostationary satellites by Echostar and DirecWay. LEO satellite service from Iridium and Globalstar (still). Point-to-point stuff on the MMDS bands. And as you well know there's plenty of ad-hoc 802.11, which as I understand was very widely deployed in lower Manhattan after 9/11. Then there's the cool stuff still on the drawing boards at my company and elsewhere that hasn't been announced yet.

This is what you're competing with. What does ham radio have to offer here? 802.11 with higher power levels? That doesn't sound very creative or even terribly useful to me. People are already doing amazing things with stock Part 15 gear and clever antenna placement; they see no reason to saddle themselves with Part 97's restrictions that would make the service essentially useless to them.

> I must also admit that our function in providing an educational opportunity to
> the educational system is important; but to put one or above the other tends to
> make both weaker...at least that seems to be how human nature works.

When I use the word "education", I mean it in the broadest sense of the word. Yes, ham radio can support formal classroom education. But more importantly, it provides a unique hands-on opportunity for any interested individual to learn radio technology on his own and at his own pace, and to teach it to others. This can be something as simple as learning how to cut and tune a dipole; I don't care what they do as long as somebody is learning something they didn't know before.

Phil

---
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## 112. [ss] Re: ss digest: January 18, 2003

From: Anthony.N.Martin@marconiselenia.com
Date: Tue, 21 Jan 2003 22:02:33 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116521-2003.01.21-16.49.34--lyris.ss#tapr.org@lists.tapr.org>
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> 97.1(a), (right at the very front) states:

Not being 'merican, I'm not au-fait with the document in question... the UK one is a lot more terse.

The only emergency pervision is words to the effect that you can pass messages from professionals in the emergency services, or supervise them using your station.

ie. the normal rules about only amateur's traffic and only amateurs using your station are waived.

There's no mandate to build systems that monitor police channels, repeaters for the ambulance service, or practise sending messages to fire trucks. These services already have networks that are readily proven daily and hourly and in continuous use.

It also doesn't mean you can go out there, make a nuisance of yourself, and pass messages from survivors to their loved ones.

> What was that Woody Allen saying?  Oh, ya "Eighty percent of success is

showing
> up." Like it or not, the HSMM is showing up when other groups are
no-where to
> be seen in the spread spectrum scene.

The important thing is that this is being done in places
like the ARRL which has the power to change things and
who others will take notice of.

Playing with WLANs is something many of us on this
group do, and many not on this group do. The ARRL don't
need to do that work. They need to do it in the sense
that they should convince themselves it's good stuff,
and be able to demo it to others.

> So, your solution is for amateur radio collectively to do nothing with
Spread
> Spectrum like they have for the last 6+ years?

What I'd like to have is a decent rig like you can get
commercially for HF, but for data. With buttons for
modulation mode, data rate, filter BW etc. At the moment
experiments are hard because flexible gear isn't there.

Now if TAPR had planned to double packet data rates
every 2 years since the TNC2, like happened with POTS
modems, ham datacomms would be in a healthy position now.

Unfortunately to get decent data equipment we now have
to do massive leaps like the 900MHz FHSS project. That
project is now stopped, but it's a serious problem
as that leap still has to be done. We still have to
find ways to push packet data rates up without breaking
the piggy-bank.

Remember packet is low data-rate but has cheap national
& international connectivity. There are lots of places to
go and you can get DX. If we push up client data
rates, we also have to push up backbone data rates and
that starts to cost real money. If we push clients
to 802.11 data rates, we need GB/s datarates in the
backbone which costs really huge amounts of money.
It means renting fibre at least as even the millimetric
bands are't big enough :-)

>From 1200bps to 10Mbps is a massive leap to make.

People will tire of multimedia QSOs if you can only
reach the same 5 people in your street. It's got to
match the international DX aspect of HF and the
international reach of the internet to work. Hence
the esteemed John Champa is damn right we need a
"hinternet".

I wait with bated breath his proposals on
(a) how to interconnect the networks.
(b) what it will cost.

Without a better idea, we can plonk the problem in
the lap of an Internet Provider who will extract
fat wads of cash from our pockets. Daily. I can see
it now... "pay-per-QSO" :-)

> Yes, I think the process gain should be greater then
> the 10-11db 802.11b offers,

802.11 DSSS is 10.5dB.
802.11 FHSS is 19dB.
802.11b is more like 1.3dB.

Hardly worth having and IMO shouldn't count as SS.
It's SS reading 9+ on the bogosity meter. It's merely
a stitch-up of the FCC & ETSI that only allow SS in
the 2.4GHz ISM band. "SS but not as we know it, Jim".

Of course, 802.11a & 802.11g aren't SS at all, but they
have better capability to overcome QRM compared to 802.11b
because it has the FEC coding to replace blatted carriers.
Perhaps our brief love-affair with FHSS and DSSS is over

and we'll dump them in the annals of history.

> Yes, it would really be ashame if we use the amateur
> bands for something useful, wouldn't it?

It's a shame to waste them so they can't be used for
their intended purpose.

There's lots of spectrum out there for business, telecoms,
military, broadcast, emergency services, etc.

Ham spectrum is set aside for the hobbyist.

...  normally hams come down on pirates in the band
like the proverbial ton of bricks.

The hobby is itself useful in many ways. Don't
suggest that "just using it for a hobby" is not.

My concern is that the "experiment" and "education"
aspects will get lost if we loose the capacity to
construct and modify. At the moment UK radio
authorities are supportive of hams as they see us
as a pool of skilled resource that benefits the UK.
If hams are de-skilled, what then?

I get the vibe that today's new hams want to learn
by being taught, rather than by trying things. That
puts a bigger burden on clubs to serve up training
on a plate.

> ????  Do you have any rig newer then 15 years old?

Dunno how old my radio is - my only voice set is a
PMR mobile. Does it matter? I programmed the channels,
I tested it, I calibrated the frequency, set the
deviation, adjusted the output power, measured the
sensitivity, wired up the hands-free, and it works.

Some people experiment with antennas. I bought mine
as antennas are cheap. It's radios that are expensive.

> Yes you say? OK go ahead and ask Kenwood, Icom,
> Yaseu or any other member of Japan Inc. for the
> source code. See how far you get.

I don't want to buy an expensive rig that's virtually
useless for datacomms.

Given the info it might be of value for modifying
but without it I won't buy it at all.

They might be nice-looking machines, ham rigs, but
the datacomms facilities are stone-age, don't you
think? I use a couple of ex-military sets that offer
better datacomms. Data in, data out at 16k synch with
interleave and FEC. Channels are only 25kHz though.
Label said "test passed" 19 august 1987.

I was thinking about an FT817 for christmas but I
think I'll stick to datacomms and get a decent laptop
to use for packet sniffing and portable WLAN demos.

> Yet, on the other hand, you *can* (sometimes for a price)
> get ahold of the source code for many SS cards such as
> the prism chip set and others.

You mean I wasted my time reverse-engineering it? :-(
Well, it was an 802.11 FHSS card, not the prism.

If anybody's got prism firmware source, pretty-please ???
My emailbox is always open, no questions asked.

> Further, many open source projects exist for use of
> these devices (such as Open-AP and others).

I've got an OpenAP. It uses linux host-AP drivers.
Linux host sourcecode for various cards is accessible,
but there's another lot of code on the card. The card
micro does all the time-critical things itself.

> > and if we
> > don't want hamradio datacomms to die a death through
> > being totally pale compared to the internet.

> ???? It already did some years ago in the U.S. Look at how many tcp/ip
NOS
> users groups there where 8-10 years ago compared to today. Or packet
BBS'es.
> Only APRS has grown, and just because it offers something unique that the
> internet can not yet meet.

Agreement.

We all recognise this situation.

In some areas APRS hasn't caught on at all, and
DX-clusters are an enduring favourite with some.

There seem to be quite a few keen on building new packet
nodes though, but they've got no customers. Given high
data rate "hinternet" availability, I think they'd be
very keen to create the new infrastructure that people
*want* to use.

Our ham population is aging, which is one problem. Many
have got into computers though, at a superficial level.
New licensing in the UK means we are getting more youth
involved, but for them, wireless datacomms will have to
offer the attractions of the internet, or a new kind
of turbo-QSO.

Most new amateurs will go out and buy a rig, but typically
datacomms features are pants. They'll explore the features
they have for many years. They're little encouraged to go
out and spend that money on datacomms gear.

> Actually, this brings a good point up, the term "ARRL 802.11b" is
confusing,
..
> How about "ARRL 802.11b operating practices"?

That sounds eminently sensible.

"IEEE 802.11b" defines a protocol owned by the IEEE.
That "ARRL 802.11b" isn't a protocol owned by the ARRL
makes it misleading.

What's most misleading is that no-one can tell me
what's in it. If we knew, we'd all be clear. All I've
heard is 2nd hand examples of what it might contain.
I've asked... At this stage it's vapourware.

I know it's not a protocol. It's recommendations, but
we don't know how advisory or how hard & fast they are.
John's statement that he wanted to influence regulations
would make them hard as nails.

The result may make it hard for amateurs to use
other protocols on these channels or adjust practice
to suit the system & application. It's easy to
justify new rules, and hard to justify removing them.

eg. the fact that commercial WLAN AP's beacon
with the SSID could be used for callsign(s).
But it would be unwise to make such use mandatory.
In several ways it is flawed, so people will have
to adopt workrounds. In future generations of
WLAN the SSID might only be available on request
or be encapsulated in an authentication process -
we could thereby lock hams to an old 802.11 spec.
It will also have to be quite clear whose callsign

is given where; ie SSID might be the station owner,
not the originator of the traffic.

There's no power to get non-hams using 802.11 to
respect the ARRL's plans. That may make the thing
futile. eg. non-amateurs may freely use SSIDs that
look callsign-ish, and may refuse to clear ch.6
for hams. So we might just straight-jacket the
hams for nil benefit.

I'd like to avoid a recurrance of that situation we
have already inherited where a certain digital mode
has become mandatory. (morse) The new UK foundation
license has been a great success but I have one regret:
it effectively makes "voice" mandatory. A bad thing
for those that join up only interested in datacomms.


Of course, I'm not american so to some extent it's
none of my business, but the USA's ARRL and the UK's
RSGB and these countries radio licensing rules are
often copied in other countries. They don't operate
in a vacuum; they influence one another a lot.


> > Do we need a new "hinternet" ISP with a mandate to
> > experiment with bleeding-edge services and runs things
> > how we like it - not with clauses to prevent subletting
> > bandwidth, running servers, or kick you off for using it
> > too much.

> Don't confuse FCC regulations with contract law. If you subscribe to a
ISP, and
> distribute the bandwidth, you may be in violation of your TOS (Terms of
> Service). This applies no matter if you under Part 97, Part 15 or running
a
> ethernet cable down the fenceline.

Indeed. We need ISPs that will give us acceptable
contract terms! If I want to connect a WLAN to the
net and share BW legally, I'd have to get a
special commercial line and costs skyrocket. If
I start charging people for broadband WLAN access
to cover my leased-line costs, I would miself be
seen as an ISP and become subject to telecoms
regulatory bodies. Not a pleasant thought.

What I'm suggesting is an ISP:

wholly dedicated to amateurs.

traffic never meets the rest of the internet

contract T&Cs that allow sharing BW via WLAN etc.

Able to use amateur spectrum for pt-to-pt & sat links

Paid for by subscription service

Investment from shares, venture capital etc.

"we come to them" rather than they wire to your door.
Amateurs use WLAN & LOS to do the last mile.


By connecting up all the existing amateur WLAN
users, and putting up some kind of "CQ" server
the holy-grail multimedia QSO would become reality.

How we do it is The Ultimate Question.


> In closing I'd suggest you check out the burgeoning
> Part 15 WLAN hobbyist market.

Already on the UK scene; www.wlan.org.uk mailing list
etc. It's half-run by hams. They have a very long page
full of pictures of WLAN accessories.

I've had to do a lot of RF teaching on the groups
as they keep asking basic questions about EIRP,
feeder loss, why 802.11a has lower sensitivity,
and things like that. Maybe I should write a FAQ.

Owing to the 100mW EIRP etsi power limits there's
little scope for experiments for license-free users
in Europe. I expect many have tried pringles-cans but
they would get clobbered by the law if they had a
rooftop installation. Hence amateur involvement in
many of the groups - have they defected through
disenchantment with the hamradio data scene? No
doubt there's a bit of covert rule-bending going on.

Major computer retail shops in the UK are well-stocked
with WLAN hardware, and the mail-order and internet
shops, but oddly not the computer fairs (where all the
real geeks go).

Ant

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## 113. [ss] Re: ss digest: January 18, 2003

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Wed, 22 Jan 2003 09:48:21 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116527-2003.01.21-17.35.25--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Remember packet is low data-rate but has cheap national
> & international connectivity. There are lots of places to
> go and you can get DX. If we push up client data
> rates, we also have to push up backbone data rates and
> that starts to cost real money. If we push clients
> to 802.11 data rates, we need GB/s datarates in the
> backbone which costs really huge amounts of money.
> It means renting fibre at least as even the millimetric
> bands are't big enough :-)

One of the reasons why the Internet needs so much bandwidth is because it
uses antiquated methods for one - many datacasts.  Streaming media over much
of the Internet is very inefficient.

One of the major ham aplications will be VoIP, I'm sure, and if we play our
cards right, we could do it _much_ more efficiently than we can on the
Internet.  And as someone else has pointed out, there's nothing stopping us
using IPv6.  /48's are easy to get hold of these days.

IPv6 also supports the stuff we'll be needing - multicast, mobile IP, etc
better than IPv4, and as a new network running as part of an experimental
hobbyist/self-learning service, there's no reason we can't go IPv6.  It's
even plug and play(ish) for those into that thing.  You just need Windows
XP...

Another interesting technology for urban areas is the mesh network, which
many of the WLAN groups are interested in building.

> People will tire of multimedia QSOs if you can only
> reach the same 5 people in your street. It's got to
> match the international DX aspect of HF and the
> international reach of the internet to work. Hence
> the esteemed John Champa is damn right we need a
> "hinternet".

Agreed.
>
> I wait with bated breath his proposals on
> (a) how to interconnect the networks.
> (b) what it will cost.

Terrestrially, we need to look at bandwidth conservation - making the one
packet go further and do more.  Internationally, the choices are to go it
alone (i.e. satellite) or hitch a ride on the Internet using tunneling.  At

this time, the latter is by far the most practical technique, though there's
always the attraction of an "all ham" solution.  Again, even if we go IPv6,
tunneling techniques are very well established, and many of the recent major
OSs (Windows XP, Linux, FreeBSD, to name a few) support 6 in 4, 6 to 4 and
other tunneling techniques.

> I get the vibe that today's new hams want to learn
> by being taught, rather than by trying things. That
> puts a bigger burden on clubs to serve up training
> on a plate.

And when you do that, you create a generation of people dependent on
educational handouts.  I've already seen a lot of people (outside) ham
circles like that, and they're frustrating to deal with, as they can't think
for themselves.
>
>
> > ????  Do you have any rig newer then 15 years old?
>
> Dunno how old my radio is - my only voice set is a
> PMR mobile. Does it matter? I programmed the channels,
> I tested it, I calibrated the frequency, set the
> deviation, adjusted the output power, measured the
> sensitivity, wired up the hands-free, and it works.

I've got a bunch of mixed radio gear.  Most has been modified - the VHF and
UHF ex commercial gear has been modified to work with IRLP, I've tweaked
things like pre-emphasis to suit the application.  Also got one radio I
converted from 70 MHz to 50 MHz, and another I plan to convert as a "rainy
day" project (in the midst of a drought, there's not many of those :( ).
>
> Some people experiment with antennas. I bought mine
> as antennas are cheap. It's radios that are expensive.

I find home brew antennas even cheaper, purchasing is still expensive, so I
only buy if I have to.  Portable antennas are especially suited to
homebrewing, especially if the wire is sitting in one's junkbox. :)

> > In closing I'd suggest you check out the burgeoning
> > Part 15 WLAN hobbyist market.
>
> Already on the UK scene; www.wlan.org.uk mailing list
> etc. It's half-run by hams. They have a very long page
> full of pictures of WLAN accessories.
>
> I've had to do a lot of RF teaching on the groups
> as they keep asking basic questions about EIRP,
> feeder loss, why 802.11a has lower sensitivity,
> and things like that. Maybe I should write a FAQ.

Much the same here, and a few RF aware people, some hams, others not (either
serious hobbyists or work in the industry) have pitched in to help.

Have a look at http://melbourne.wireless.org.au for a take on the local WLAN
scene here.  Various FAQs and documentation on subject areas such as RF and
IPv6 can be found in the wiki.

> Owing to the 100mW EIRP etsi power limits there's
> little scope for experiments for license-free users
> in Europe. I expect many have tried pringles-cans but

In Australia, it's 4W EIRP, and the regulations were recently changed to
allow the full 4W across the 83 MHz band, not just the lower 63 MHz.  At
these power levels, you can do useful things, if you construct your system
carefully.

> Major computer retail shops in the UK are well-stocked
> with WLAN hardware, and the mail-order and internet
> shops, but oddly not the computer fairs (where all the
> real geeks go).

Haven't been to the local swap meets for some time so I don't know what's
happening there, but after some successful bulk buys of surplus WLAN gear in
2002 at very good prices (I managed to purchase a few PCMCIA cards myself
out of these deals), Melbourne Wireless tends to use a web based system for
procuring hardware and making availability of hardware known.

---
Outgoing mail has been scanned for Viruses

Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.443 / Virus Database: 248 - Release Date: 10/01/2003

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## 114. [ss] Re: ss digest: January 18, 2003

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Wed, 22 Jan 2003 10:06:13 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116528-2003.01.21-17.53.14--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> One of the reasons why the Internet needs so much bandwidth
> is because it
> uses antiquated methods for one - many datacasts.  Streaming
> media over much
> of the Internet is very inefficient.

I forgot to add, the ever popular packet DX clusters suffer from exactly the
same problem and clog up user frequencies when a number of DX hunters get
on. :-/

---
Outgoing mail has been scanned for Viruses
Checked by AVG anti-virus system (http://www.grisoft.com).
Version: 6.0.443 / Virus Database: 248 - Release Date: 10/01/2003

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## 115. [ss] Re: ss digest: January 18, 2003

From: Walt DuBose <dubose@texas.net>
Date: Tue, 21 Jan 2003 19:33:55 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116550-2003.01.21-20.20.38--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Tony Langdon wrote:
>
> > Remember packet is low data-rate but has cheap national
> > & international connectivity. There are lots of places to
> > go and you can get DX. If we push up client data
> > rates, we also have to push up backbone data rates and
> > that starts to cost real money. If we push clients
> > to 802.11 data rates, we need GB/s datarates in the
> > backbone which costs really huge amounts of money.
> > It means renting fibre at least as even the millimetric
> > bands are't big enough :-)
>
> One of the reasons why the Internet needs so much bandwidth is because it
> uses antiquated methods for one - many datacasts.  Streaming media over much
> of the Internet is very inefficient.
>

Perhaps we can cut some of that out and ping off (note the pun) 802.11b
and
cut out un-needed packets.

> One of the major ham aplications will be VoIP, I'm sure, and if we play our
> cards right, we could do it _much_ more efficiently than we can on the
> Internet.  And as someone else has pointed out, there's nothing stopping us
> using IPv6.  /48's are easy to get hold of these days.
>

Yahooo...someone else has seen the light.  On any speed over 24 Kbps,
you can
run VoIP (i.e.NeetMeeting, Open H323, etc.)

IPv6...I'm still behind the power curve on this but it sure looks good
to me.

One work of caution...general caution.  We need to be careful what we
impose
on the general amateur radio population if we want their buy-in on
anything
we do.  If it cost too much or is too complicated or too much out of the
box, they won't bite.

> IPv6 also supports the stuff we'll be needing - multicast, mobile IP, etc
> better than IPv4, and as a new network running as part of an experimental
> hobbyist/self-learning service, there's no reason we can't go IPv6.  It's
> even plug and play(ish) for those into that thing.  You just need Windows
> XP...
>

 Ah ha, I need to buy XP...but I just have W98 and a PIII 566 MHz with
64 MB
of RAM and 5 GB HDD.  Oh, and what about the hams running Linux?

This is just want I am talking about...we've got to go a little slow to
get
the general amateur radio population buy in.


> Another interesting technology for urban areas is the mesh network, which
> many of the WLAN groups are interested in building.
>

Yep, that's what makes this whole ball of wax so interesting.

> > People will tire of multimedia QSOs if you can only
> > reach the same 5 people in your street. It's got to
> > match the international DX aspect of HF and the
> > international reach of the internet to work. Hence
> > the esteemed John Champa is damn right we need a
> > "hinternet".
>
> Agreed.

Me too, when you can do IRC, VoIP, smtp, http all at once, what's
left?  So we've got to find ways to hook up the world....that's
what.

> >
> > I wait with bated breath his proposals on
> > (a) how to interconnect the networks.
> > (b) what it will cost.
>
> Terrestrially, we need to look at bandwidth conservation - making the one
> packet go further and do more.  Internationally, the choices are to go it
> alone (i.e. satellite) or hitch a ride on the Internet using tunneling.  At
> this time, the latter is by far the most practical technique, though there's
> always the attraction of an "all ham" solution.  Again, even if we go IPv6,
> tunneling techniques are very well established, and many of the recent major
> OSs (Windows XP, Linux, FreeBSD, to name a few) support 6 in 4, 6 to 4 and
> other tunneling techniques.
>
> > I get the vibe that today's new hams want to learn
> > by being taught, rather than by trying things. That
> > puts a bigger burden on clubs to serve up training
> > on a plate.
>

Yep many and some of us OTs need to go a little slow.

> And when you do that, you create a generation of people dependent on
> educational handouts.  I've already seen a lot of people (outside) ham
> circles like that, and they're frustrating to deal with, as they can't think
> for themselves.

Not hams that are appliance operators or binary installers; but ones
that are
capable of hacking a program and compliing it and then making it run on
their
hardware and even electronically re-programming their hardware as well
as
perhaps microsurgery on the PCBs.
> >
> >

I'm going to stop here and I hope you are hearing this old man's
babbling.

73 all,

Walt/K5YFW

> > > ????  Do you have any rig newer then 15 years old?
> >
> > Dunno how old my radio is - my only voice set is a
> > PMR mobile. Does it matter? I programmed the channels,
> > I tested it, I calibrated the frequency, set the
> > deviation, adjusted the output power, measured the
> > sensitivity, wired up the hands-free, and it works.
>
> I've got a bunch of mixed radio gear.  Most has been modified - the VHF and
> UHF ex commercial gear has been modified to work with IRLP, I've tweaked
> things like pre-emphasis to suit the application.  Also got one radio I
> converted from 70 MHz to 50 MHz, and another I plan to convert as a "rainy
> day" project (in the midst of a drought, there's not many of those :( ).
> >
> > Some people experiment with antennas. I bought mine
> > as antennas are cheap. It's radios that are expensive.
>
> I find home brew antennas even cheaper, purchasing is still expensive, so I
> only buy if I have to.  Portable antennas are especially suited to
> homebrewing, especially if the wire is sitting in one's junkbox. :)
>
> > > In closing I'd suggest you check out the burgeoning
> > > Part 15 WLAN hobbyist market.
> >
> > Already on the UK scene; www.wlan.org.uk mailing list
> > etc. It's half-run by hams. They have a very long page
> > full of pictures of WLAN accessories.
> >
> > I've had to do a lot of RF teaching on the groups
> > as they keep asking basic questions about EIRP,
> > feeder loss, why 802.11a has lower sensitivity,
> > and things like that. Maybe I should write a FAQ.
>
> Much the same here, and a few RF aware people, some hams, others not (either
> serious hobbyists or work in the industry) have pitched in to help.
>
> Have a look at http://melbourne.wireless.org.au for a take on the local WLAN
> scene here.  Various FAQs and documentation on subject areas such as RF and
> IPv6 can be found in the wiki.
>
> > Owing to the 100mW EIRP etsi power limits there's
> > little scope for experiments for license-free users
> > in Europe. I expect many have tried pringles-cans but
>
> In Australia, it's 4W EIRP, and the regulations were recently changed to
> allow the full 4W across the 83 MHz band, not just the lower 63 MHz.  At
> these power levels, you can do useful things, if you construct your system
> carefully.
>
> > Major computer retail shops in the UK are well-stocked
> > with WLAN hardware, and the mail-order and internet
> > shops, but oddly not the computer fairs (where all the
> > real geeks go).
>
> Haven't been to the local swap meets for some time so I don't know what's

> happening there, but after some successful bulk buys of surplus WLAN gear in
> 2002 at very good prices (I managed to purchase a few PCMCIA cards myself
> out of these deals), Melbourne Wireless tends to use a web based system for
> procuring hardware and making availability of hardware known.
>
> ---
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## 116. [ss] Re: ss digest: January 18, 2003

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Wed, 22 Jan 2003 14:15:11 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116557-2003.01.21-22.02.18--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Perhaps we can cut some of that out and ping off (note the
> pun) 802.11b
> and
> cut out un-needed packets.

Indeed... :-)
>
> > One of the major ham aplications will be VoIP, I'm sure,
> and if we play our
> > cards right, we could do it _much_ more efficiently than we
> can on the
> > Internet.  And as someone else has pointed out, there's
> nothing stopping us
> > using IPv6.  /48's are easy to get hold of these days.
> >
>
> Yahooo...someone else has seen the light.  On any speed over 24 Kbps,
> you can
> run VoIP (i.e.NeetMeeting, Open H323, etc.)

Indeed, and on multicast, adding hosts to the conference does NOT increase
bandwidth (in most cases).  FWIW, the examples youmention use unicast and
are subject to bandwidth problems... :)
>
> IPv6...I'm still behind the power curve on this but it sure looks good
> to me.
>
> One work of caution...general caution.  We need to be careful what we
> impose
> on the general amateur radio population if we want their buy-in on
> anything
> we do.  If it cost too much or is too complicated or too much
> out of the
> box, they won't bite.

True, but then we bring in the next generation ham - the guys who play
802.11b are into this stuff, and ham radio can potentially offer it on a
grand scale, at least on a regional basis.  VoIP is one of the most popular
activities we've had at Melbourne Wireless. :)

>  Ah ha, I need to buy XP...but I just have W98 and a PIII 566 MHz with
> 64 MB
> of RAM and 5 GB HDD.  Oh, and what about the hams running Linux?

Well, W98 is dead as far as this goes, I'm afraid.  You could try the
commercialware IPv6 stack from Trumpet, or hope some network and Windows
guru writes a freeware one.

Linux?  Sure, most modern distributions only require a minor tweak or two to
be able to support IPv6 in a basic form.  In Red Hat, it's about 3 or 4
lines in /etc/sysconfig/network, and then setup your routing and tunneling
(if you want to connect to the IPv6 Internet).  Oh, instructions are on the
melbourne Wireless site for that as a quickstart, or there's the How-To for
the gory details. :-)  It's only the "DOS"ish versions of Windows that are a
real problem here.

> This is just want I am talking about...we've got to go a
> little slow to
> get
> the general amateur radio population buy in.

To a point, but OTOH, we have to get enough of an interest group to attract
newcomers who would quickly become part of the user base.  It could be a
good recruiting base.  And these guys don't have to become hams initially to
take part, as there will be a lot of networking stuff to do - stuff they're
into.

Obviously, the traffic would have to be easily "sniffed" without any ACKs
being sent so SWLs (USWLs? :) ) can pick a data stream and watch or listen
to the traffic in it, like they can tune around and listen with current ham
radio.  I'd like to see all this "cool" technology SWL accessible.
>
>
> > Another interesting technology for urban areas is the mesh
> network, which
> > many of the WLAN groups are interested in building.
> >
>
> Yep, that's what makes this whole ball of wax so interesting.

indeed. :)

> Me too, when you can do IRC, VoIP, smtp, http all at once, what's
> left?  So we've got to find ways to hook up the world....that's
> what.

Even on a regional level...  How many ATV repeaters are linked?  How about a
whole network of them running on the digital network?  We don't know the
possibilities until we build the thing.  One thing I'm sure of is bandwidth
constraints at the back end will mean we will be lookinbg for the most
efficient way to move as much data as possible.  We can't throw a nother
piece of fibre in the ground to meet escalating bandwidth demands - we have
to be much more clever, but that's all back end stuff, not end user.

> Yep many and some of us OTs need to go a little slow.

Hehehe, well hopefully there will be a lot of young Elmers who can help the
OTs with the technology, in return for some of the good oil on the radio
art. :-)

> Not hams that are appliance operators or binary installers; but ones
> that are
> capable of hacking a program and compliing it and then making
> it run on
> their
> hardware and even electronically re-programming their hardware as well
> as
> perhaps microsurgery on the PCBs.

Well, those kind of hams would be handy to have around.  Fortunately,
there's quite a lot of them in this area of all ages.
> > >
> > >
>
> I'm going to stop here and I hope you are hearing this old man's
> babbling.

And I hope you're seeing a younger perspective. :-)  Good to have this
discussion.

---
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## 117. [ss] Re: Possible SPAM (accuracy low): Re: ss digest: January 18, 2003

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Wed, 22 Jan 2003 16:49:33 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116588-2003.01.22-00.40.08--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Phil Karn commented....
>I did not say that ham radio plays *no* role in emergency
>communications. I said that it plays a role that is rapidly dwindling
>into irrelevance. This is a fact. We're not just competing with cell
>phones that carry voice; we're talking about the rapid commercial
>deployment of a wide variety of Internet access services using both
>wired and wireless technologies, centralized and distributed.

Exactly... Perfect Example. I was in Australia's capital, Canberra on
the Weekend, with John Ackerman, President of TAPR, showing him arround.

On Saturday we had one of the worst natural disasters ever in this
country to hit a capital city. We had about 420 homes totally destroyed
by fire. Burned to the ground. This is in a city with a population of
300,000 and maybe 75,000 homes. So 420/75,000 is a lot of homes. And a
lot of people homeless.

This was caused by bushfires - which also destroyed Mt Stromlo
observatory, and the Harvard-Yale telescope that has a sister on Boston
from early last centurary... And Could easally have devastated
Tidbinbilla Deep Space Tracking Station since the fires came very close
to it.

We also had blackouts for 24 hours for 25% of the city. We had burning
sticks falling to the ground miles away.

And all during this time WICEN (the Ham Radio emergency organisation)
WAS NOT ACTIVATED. Probably 4000 in shelters for days, at least 1500
without homes in an area with a rental availability of 2%. And we were
not even called in to answer telephones at the evacuation centers. You
see, everything worked.

Residents were advised to get more information on the net. It survived.
The radio stations survived, although at least one had major problems
and was obviously running on backup evidenced by the servere
undermodulation. The TV stations remained on air, except when power was
interruped when fire caused short circuits for a second or two.

Communications is too reliable.

I can see three ways that Ham Radio can help in the average disaster
        a) Clerical work such as answring phones etc
        b) Get some of the Ham technologies into the emergency services.
Get APRS onto fire trucks and water bombers.
        c) Convince people like phil to make their phones less reliable

Darryl

---------
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

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## 118. [ss] Re: ss digest: January 18, 2003

From: Phil Karn <karn@ka9q.net>
Date: Wed, 22 Jan 2003 01:09:48 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116598-2003.01.22-03.56.52--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Darryl Smith wrote:

> I can see three ways that Ham Radio can help in the average disaster
>       a) Clerical work such as answring phones etc
>       b) Get some of the Ham technologies into the emergency services.
> Get APRS onto fire trucks and water bombers.
>       c) Convince people like phil to make their phones less reliable

I see a fourth:

        d) Initially hook and and educate interested members of the
public in radio technology and electronics; prompt at least some of them
to seek formal higher education in engineering and to choose careers in
engineering and science; have them go forth and create, professionally
or otherwise, new technologies for communications and other fields that
can be deployed and used in emergencies; have them help educate the
public and raise the general level of scientific literacy, so they won't
irrationally oppose the cell sites and other facilities they'll need in
emergencies; well, you get the picture.

Phil

---
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## 119. [ss] Re: ss digest: January 18, 2003

From: Phil Karn <karn@ka9q.net>
Date: Wed, 22 Jan 2003 01:17:58 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116599-2003.01.22-04.04.56--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Walt DuBose wrote:

>  Ah ha, I need to buy XP...but I just have W98 and a PIII 566 MHz with
> 64 MB
> of RAM and 5 GB HDD.  Oh, and what about the hams running Linux?

Linux support for IPv6 is excellent. I've been running it since last
summer. IPv6 is already a very handy tool for NAT penetration, e.g.,
when you're trying to maintain a bunch of machines behind a NAT box on a
cable modem.

Microsoft, as usual, is a problem. W98/Me has no IPv6 and never will,
I'm told. There's an unsupported IPv6 package for W2K, but it's broken
on most machines. It's a trivial bug in duplicate address detection,
easily fixable with source. When I complained, I was told "upgrade to
XP". Well, **** that. Who needs them anyway when you have Linux, Open
Office and Mozilla?

Phil

---
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## 120. [ss] Re: Possible SPAM (accuracy low): Re: ss digest: January 18, 2003

From: Geoff <vk2tfg@ozemail.com.au>
Date: Wed, 22 Jan 2003 20:25:57 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116600-2003.01.22-04.13.02--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Darryl Smith wrote:

snipped

>
>
> Communications is too reliable.
>
> I can see three ways that Ham Radio can help in the average disaster
>       a) Clerical work such as answring phones etc
>       b) Get some of the Ham technologies into the emergency services.
> Get APRS onto fire trucks and water bombers.
>       c) Convince people like phil to make their phones less reliable

snipped

Hi Darryl,
       Even (b) would not acheive much. In Victoria DSE fire management
has state wide high speed data  and voice comms independent of mains
power and land lines. With this they can send IR line scan piccy's to
anybody on the 'net (intranet only (policy issues)) within a few minutes
of the aircraft finishing it's scan run (and the time is coming down). I
can tell you that the line scan crews have been very busy in the last
few days, my little brother has been getting home at 4 or 5 most
mornings. They can track assets ('dozers to aircraft and anything in
between) using a GPS, a "black box"(I didn't ask what was in it) and a
trunk radio. etc etc....

       73 de Geoff vk2tfg
       TAPR #7511

---
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## 121. [ss] RE: Content Restrictions

From: Anthony.N.Martin@marconiselenia.com
Date: Wed, 22 Jan 2003 13:09:27 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116612-2003.01.22-07.56.31--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> >   If ARP fails, because connectivity to other systems
> >   are down,  your ping packet will never be sent.
>

> Hard code the ARP entry pointing at the RF port to be identified.

> Bill, WA7NWP

Great idea.

That should be arp -s on most systems to force an ARP
entry

On NT4 it's arp -s <host> <MAC> <iface_MAC>
On sunos it's arp -s <host> <MAC>

On my FreeDOS with XFS it's arp -i.

<MAC> is a bogus MAC for the machine you're
pinging.

<iface_MAC> must be the MAC of a port on the local
machine, a LAN card connected to the AP or the MAC
of your WLAN card. Not needed if you only have one.

<host> is a bogus hostname you're pinging,
which can be in n.n.n.n format. If not you'd
have to make an entry for it in the local
"hosts" file.


Bill, you're a star.


I'll have to look on my OpenAP if it's got "arp"!
And how to put it in the init scripts somewhere.

Ideally I want the AP to send callsign without the
help of other PCs.

There remains a possible problem with bridges that
are supposed to learn from arps which network
segments to pass packets to for a given MAC and
won't forward them unnecessarily.

You should be OK if you associate a MAC that you know
not to exist. As long as the bogus machine never
responds, the bridges should forward packets everywhere
in the hope it comes up somewhere.

Hmm, now how do we stop someone else's pings being
retransmitted by our own WLAN? Where you are
deliberately bridging across several amateur's
stations, isn't that exactly what will happen -
your station will send everyone else's ID as
well as your own?

Ant

---
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## 122. [ss] Re: Possible SPAM (accuracy low): Re: ss digest: January 18, 2003

From: Hamish Moffatt <hamish@cloud.net.au>
Date: Thu, 23 Jan 2003 00:20:07 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116613-2003.01.22-08.07.14--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Wed, Jan 22, 2003 at 04:49:33PM +1100, Darryl Smith wrote:
> And all during this time WICEN (the Ham Radio emergency organisation)
> WAS NOT ACTIVATED. Probably 4000 in shelters for days, at least 1500

Having said that, emails have just gone around looking for volunteers to
help WICEN in alpine Victoria and NE NSW, where fires are still burning.

Hamish
--
Hamish Moffatt VK3SB <hamish@debian.org> <hamish@cloud.net.au>

---
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## 123. [ss] Re: Possible SPAM (accuracy low): Re: ss digest: January 18, 2003

From: Anthony.N.Martin@marconiselenia.com
Date: Wed, 22 Jan 2003 13:22:09 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116614-2003.01.22-08.09.16--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I say again...San Antonio's emergency management area extends from the
Rio Grande on the
Texas Gulf Coast to Houston and 100 miles inland.  As I remember my
geography, that's about the same land mass as England

That may be so, but I bet it contains far fewer people than England.
We have a major problem with population density; it's probably
the highest in Europe bar the vatican state.

There are about 55 million people in the UK, the vast majority
live in England. If you evacuated them, there would simply
be nowhere for them to go.

Ant

---
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## 124. [ss] Re: ss digest: January 18, 2003

From: Anthony.N.Martin@marconiselenia.com
Date: Wed, 22 Jan 2003 15:04:56 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116622-2003.01.22-09.52.04--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Ah ha, I need to buy XP...but I just have W98 and a PIII 566 MHz with
> 64 MB
> of RAM and 5 GB HDD. Oh, and what about the hams running Linux?

Well, W98 is dead as far as this goes, I'm afraid. You could try the
commercialware IPv6 stack from Trumpet, or hope some network and Windows
guru writes a freeware one.

Linux? Sure, most modern distributions only require a minor tweak or two
to
be able to support IPv6 in a basic form. In Red Hat, it's about 3 or 4
lines in /etc/sysconfig/network, and then setup your routing and tunneling
(if you want to connect to the IPv6 Internet). Oh, instructions are on the
melbourne Wireless site for that as a quickstart, or there's the How-To for
the gory details. :-) It's only the "DOS"ish versions of Windows that are
a
real problem here.

There is a "microsoft research" produced IPv6 module
for earlier versions of windows. It's not "supported" and
patches may also be needed to other apps that may
conflict with other patches, so it's not a "mainstream"
solution.

I'm not clear how far v6 support goes in XP anyway;
to some extent it affects the apps, as the API to
sockets changes. IE6 handles it but will Microsoft
Networking now run over v6? Will the IIS servers
run on v6? Hmm.

The whole internet will have to migrate to v6 anyway over
the next 10 years; I don't know how painful it will be.
That depends how easily they coexist in parallel.

If our ISPs will start routing v6 protocol as well as v4
from our dialup lines it could be quite easy. You'll
type a URL and the nameserver will give you a
v4 or v6 IP address and your system will use the
appropriate protocol stack.

It's best to avoid migration issues for a new network
by going v6 from day one. I've been thinking about
switching my home LAN to find out what the issues are.

My freeware DOS PCNFS thing that I just set up,
XFS, definitely would have problems - it's not open
source but some negotiations with the author might
get a result.

Ant

There may be more important considerations like
whether BIND 9 supports IPv6 as you can't have an
internet without nameservers.

---
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## 125. [ss] Re: ss digest: January 18, 2003

From: dubose@texas.net
Date: Wed, 22 Jan 2003 09:05:16 US/Central
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116623-2003.01.22-09.52.18--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Sorry about that, I was puling your virtual leg...FYI I have NEVER run MS at
home...I've been running Linux since Aug 1991('92?) and before that IBM and
DrDOS.  Used DrDOS (I think) with the KA9Q NOS.  I have only used MS NT in the
job I am in now since Aug. 1999 and between Unix/Linux and MS, MS is BAD.

Walt/K5YFW

PS, I am going to have to take a picture of my Office Door and post it on the
web...its very anti-MS.

(Duck and cover...duck and cover...incoming)

> Walt DuBose wrote:
>
> >  Ah ha, I need to buy XP...but I just have W98 and a PIII 566 MHz with
> > 64 MB
> > of RAM and 5 GB HDD.  Oh, and what about the hams running Linux?
>
> Linux support for IPv6 is excellent. I've been running it since last
> summer. IPv6 is already a very handy tool for NAT penetration, e.g.,
> when you're trying to maintain a bunch of machines behind a NAT box on a
> cable modem.
>
> Microsoft, as usual, is a problem. W98/Me has no IPv6 and never will,
> I'm told. There's an unsupported IPv6 package for W2K, but it's broken
> on most machines. It's a trivial bug in duplicate address detection,
> easily fixable with source. When I complained, I was told "upgrade to
> XP". Well, **** that. Who needs them anyway when you have Linux, Open
> Office and Mozilla?
>
> Phil
>
>
> ---
> You are currently subscribed to ss as: dubose@texas.net
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
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## 126. [ss] Re: ss digest: January 18, 2003

From: Gerry Creager <gerry.creager@tamu.edu>
Date: Wed, 22 Jan 2003 09:44:42 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116625-2003.01.22-10.31.52--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I did a hands-on IPv6 routing workshop a couple of months ago.  Things
are getting a little old (I expected to come back and immediately
implement some IPv6 on our campus and it just didn't seem to work
out...) BUT...

In Win95, IPv6 is just not there.  Supposedly, there's a patch somewhere
for Win98SE, unsupported by, but available from M$.  I'll ask the
appropriate folks where.

WinNT4 is unsupported, supposedly, and Win2k is less than complete but
pretty usable.  XP "just works."  Coming from me, this is high praise...

IPv6 comes as a module in most linux distros.  It requires 'modprobe
ipv6' to get things up in the rudimentary form Ant mentions below.
Routing is best done with 'zebra' IMHO, or a Juniper M5.  Setting up the
Ciscos capable of ipv6 is not intuitive and may require tequila.  6to4
tunnelling is 2 more commands in RedHat and is well documented across
the net.  Google-search '6to4' and 'ipv6'...

I'm setting up IPv6 here at home (well, it's running on 2 computers so
far, dual stack IPv4 and IPv6).  I'll be experimenting with IPv6 across
a couple of WAP-11 APs, with a 6to4 conversion prior to things going
back to the campus (currently ISDN, soon, real soon, 5 mile [legal per
36dBm restrictions maths] 802.11a or b link).  Later, as I get the
campus IPv6 network running I'll be native therein, and we'll convert at
the campus edge.  And sometime in 2003, I hope to extend the native IPv6
network all the way to Internet2 at our Gigapop connector in Houston, Tx.

A few more comments inline below...

gerry

Anthony.N.Martin@marconiselenia.com wrote:
>> Ah ha, I need to buy XP...but I just have W98 and a PIII 566 MHz with
>>64 MB
>>of RAM and 5 GB HDD.  Oh, and what about the hams running Linux?
>
>
> Well, W98 is dead as far as this goes, I'm afraid.  You could try the
> commercialware IPv6 stack from Trumpet, or hope some network and Windows
> guru writes a freeware one.
>
> Linux?  Sure, most modern distributions only require a minor tweak or two
> to
> be able to support IPv6 in a basic form.  In Red Hat, it's about 3 or 4
> lines in /etc/sysconfig/network, and then setup your routing and tunneling
> (if you want to connect to the IPv6 Internet).  Oh, instructions are on the
> melbourne Wireless site for that as a quickstart, or there's the How-To for
> the gory details. :-)  It's only the "DOS"ish versions of Windows that are
> a
> real problem here.

A largish number of Linux apps, including Apache, handle IPv6 well.
Mozilla's fine, there's also parallel apps: traceroute6, tracepath6,
ping6, ssh6, etc.

> There is a "microsoft research" produced IPv6 module
> for earlier versions of windows. It's not "supported" and
> patches may also be needed to other apps that may
> conflict with other patches, so it's not a "mainstream"
> solution.
>
> I'm not clear how far v6 support goes in XP anyway;
> to some extent it affects the apps, as the API to
> sockets changes. IE6 handles it but will Microsoft
> Networking now run over v6? Will the IIS servers
> run on v6? Hmm.

Do we really WANT IIS running IPv6?  Or IPv4?

> The whole internet will have to migrate to v6 anyway over
> the next 10 years; I don't know how painful it will be.
> That depends how easily they coexist in parallel.

Pretty well...

> If our ISPs will start routing v6 protocol as well as v4
> from our dialup lines it could be quite easy. You'll
> type a URL and the nameserver will give you a
> v4 or v6 IP address and your system will use the
> appropriate protocol stack.

On this side of the pond, we're expecting the ISPs to be some of the
last to go.  Several of the carriers are experimenting with backbone
IPv6 or have implementation plans.  Internet2's Abilene Network backbone
has migrated already.  (Did I mention that Abilene's going to 10GBE as a
backbone?)

Getting the ISPs to handling addressing for IPv6 will be a major pain.
Worse yet will be the paradigm shift in static routing a lot of them
want to enjoy.  Dynamic discovery is a key to IPv6 nirvana, but a lot of
'em over here use static routes for paths to customers.  That's great
when you're assigning static CIDR blocks, but starts to fail when
someone can implement IPv6 and mobility.

> It's best to avoid migration issues for a new network
> by going v6 from day one. I've been thinking about
> switching my home LAN to find out what the issues are.

See above...

> My freeware DOS PCNFS thing that I just set up,
> XFS, definitely would have problems - it's not open
> source but some negotiations with the author might
> get a result.
...
> There may be more important considerations like

> whether BIND 9 supports IPv6 as you can't have an
> internet without nameservers.

Non-issue.  It does, with AAAA records and automagic incorporation of
results.

gerry n5jxs
--
Gerry Creager -- gerry.creager@tamu.edu
Network Engineering -- AATLT, Texas A&M University
Office: 979.458.4020  FAX: 979.847.8578
Cell: 979.229.5301    Pager: 979.228.0173

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## 127. [ss] Re: Possible SPAM (accuracy low): Re: ss digest: January 18, 2003

From: Gerry Creager <gerry.creager@tamu.edu>
Date: Wed, 22 Jan 2003 10:03:33 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116629-2003.01.22-10.50.33--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I suspect that if we had 55 million people in that region of Texas,
those of us who really call this place home would lobby to relocate as
many as possible to California, where they apparently ENJOY crowding!  :-)

gerry

Anthony.N.Martin@marconiselenia.com wrote:
> I say again...San Antonio's emergency management area extends from the
> Rio Grande on the
> Texas Gulf Coast to Houston and 100 miles inland.  As I remember my
> geography, that's about the same land mass as England
>
> That may be so, but I bet it contains far fewer people than England.
> We have a major problem with population density; it's probably
> the highest in Europe bar the vatican state.
>
> There are about 55 million people in the UK, the vast majority
> live in England. If you evacuated them, there would simply
> be nowhere for them to go.
>
> Ant
>
>
>
> ---
> You are currently subscribed to ss as: gerry.creager@tamu.edu
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

--
Gerry Creager -- gerry.creager@tamu.edu
Network Engineering -- AATLT, Texas A&M University
Office: 979.458.4020  FAX: 979.847.8578
Cell: 979.229.5301    Pager: 979.228.0173

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## 128. [ss] Re: Possible SPAM (accuracy low): Re: ss digest: January18, 2003

From: dubose@texas.net
Date: Wed, 22 Jan 2003 10:10:37 US/Central
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116637-2003.01.22-10.57.36--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Different problems require different solutions.

So you don't need amateur radio operators in EU for emergency comms.

We need them in the U.S.

Apples and oranges.

Walt/K5YFW

>
> I say again...San Antonio's emergency management area extends from the
> Rio Grande on the
> Texas Gulf Coast to Houston and 100 miles inland.  As I remember my
> geography, that's about the same land mass as England
>
> That may be so, but I bet it contains far fewer people than England.
> We have a major problem with population density; it's probably
> the highest in Europe bar the vatican state.
>
> There are about 55 million people in the UK, the vast majority
> live in England. If you evacuated them, there would simply
> be nowhere for them to go.
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> ---
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>

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## 129. [ss] Re: Possible SPAM (accuracy low): Re: ss digest: January 18, 2003

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Thu, 23 Jan 2003 08:08:05 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116661-2003.01.22-15.55.23--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> And all during this time WICEN (the Ham Radio emergency organisation)
> WAS NOT ACTIVATED. Probably 4000 in shelters for days, at least 1500
> without homes in an area with a rental availability of 2%. And we were
> not even called in to answer telephones at the evacuation centers. You
> see, everything worked.

FWIW, WICEN has been activated for the Victorian bushfires.  WICEN
volunteers are being used as a pool of trained operators who can free up
other resources for other purposes (e.g. a trained firefighter can be
re-deployed at the fire front, while a ham looks after the comms).  The VK3
callout specifically says that no equipment is needed, just operators.

> Communications is too reliable.

In general, yes.
>
> I can see three ways that Ham Radio can help in the average disaster
>       a) Clerical work such as answring phones etc

Or acting as a trained pool of operators, freeing other respurces for
re-deployment.

>       b) Get some of the Ham technologies into the emergency services.
> Get APRS onto fire trucks and water bombers.

This could be useful.

>       c) Convince people like phil to make their phones less reliable

LOL :-)

---
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## 130. [ss] Re: ss digest: January 18, 2003

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Thu, 23 Jan 2003 08:16:00 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116662-2003.01.22-16.03.10--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Linux support for IPv6 is excellent. I've been running it since last
> summer. IPv6 is already a very handy tool for NAT penetration, e.g.,
> when you're trying to maintain a bunch of machines behind a
> NAT box on a
> cable modem.

Hehe, I'm doing exactly that.  My network is visible on IPv6.  The NAT box
is a Linux machine while also acts as an IPv6 router.  Oh, I've got IPv6
connectivity here via some development boxes, but it's not "official" yet.
However, IPv6 support is one thing I want to ensure for any new
infrastructure.

> Microsoft, as usual, is a problem. W98/Me has no IPv6 and never will,
> I'm told. There's an unsupported IPv6 package for W2K, but
> it's broken
> on most machines. It's a trivial bug in duplicate address detection,
> easily fixable with source. When I complained, I was told "upgrade to
> XP". Well, **** that. Who needs them anyway when you have Linux, Open
> Office and Mozilla?

Hmm, there are some uses for Windows, though Linux has been rapidly gaining
ground on the desktop application front.  I'd like another machine, purely
as a Linux desktop (already got the Linux firewall and Windows desktop).

As for Win2k, there are actually two IPv6 packages from Microsoft.  I've
been running one of them for some time without any hassles on a few machines
(including this one).

---
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## 131. [ss] Re: ss digest: January 18, 2003

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Thu, 23 Jan 2003 09:04:31 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116666-2003.01.22-16.51.42--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> I'm not clear how far v6 support goes in XP anyway;
> to some extent it affects the apps, as the API to
> sockets changes. IE6 handles it but will Microsoft

> Networking now run over v6? Will the IIS servers
> run on v6? Hmm.

Apps written to use IPv6 will work fine.  I have run IPv6 enabled apps such
as Apache under Windows 2000 with the IPv6 stack applied.  Windows
networking itself hasn't been written to run over IPv6 at this stage.

One thing of interest will be what .Net supports, since this will have the
first production IPv6 stack from MS.
>
> The whole internet will have to migrate to v6 anyway over
> the next 10 years; I don't know how painful it will be.
> That depends how easily they coexist in parallel.

They coexist fine.  This was one of the design goals ofIPv6.
>
> If our ISPs will start routing v6 protocol as well as v4
> from our dialup lines it could be quite easy. You'll
> type a URL and the nameserver will give you a
> v4 or v6 IP address and your system will use the
> appropriate protocol stack.

This already works if you have IPv6 connectivity.  Only caveat is if you're
using an IPv4 only proxy, you will not be able to access IPv6 sites.
However, if you use a dual stack proxy (even if you're on an IPv4 only
network), you will be able to access both IPv4 and IPv6 sites.
>
> It's best to avoid migration issues for a new network
> by going v6 from day one. I've been thinking about
> switching my home LAN to find out what the issues are.

Grab a /48 from freenet6.net and have a play! :)

>
> My freeware DOS PCNFS thing that I just set up,
> XFS, definitely would have problems - it's not open
> source but some negotiations with the author might
> get a result.

Good luck there.
>
>
> Ant
>
> There may be more important considerations like
> whether BIND 9 supports IPv6 as you can't have an
> internet without nameservers.

BIND does, from memory.  Many of the UNIX daemons support IPv6 to some
extent (may need patches in some cases).

Have a look at http://www.hs247.net
http://www.ipv6.org
http://www.freenet6.net (grab a static /48 from here :) ).

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Version: 6.0.443 / Virus Database: 248 - Release Date: 10/01/2003


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## 132. [ss] Re: ss digest: January 18, 2003

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Thu, 23 Jan 2003 09:14:16 +1100

To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116668-2003.01.22-17.01.24--lyris.ss#tapr.org@lists.tapr.org>
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> IPv6 comes as a module in most linux distros.  It requires 'modprobe
> ipv6' to get things up in the rudimentary form Ant mentions below.

Red Hat 7.2 and later is easy, just add a couple of lines to
/etc/syconfig/network and you have IPv6 on the box.  Configure a tunnel or
hook up to an already IPv6 enabled network and you're away.

> Routing is best done with 'zebra' IMHO, or a Juniper M5.
> Setting up the
> Ciscos capable of ipv6 is not intuitive and may require
> tequila.  6to4
> tunnelling is 2 more commands in RedHat and is well documented across
> the net.  Google-search '6to4' and 'ipv6'...

Easy peasy :)

>
> I'm setting up IPv6 here at home (well, it's running on 2
> computers so
> far, dual stack IPv4 and IPv6).  I'll be experimenting with
> IPv6 across

I'm running IPv6 at home as well.  I also have IPv6 running here, though
it's mostly firewalled out.  The more interesting bit is I have this machine
on IPv6 with its own tunnel to the nearest IPv6 router (the path goes
through a couple of IPv4 only routers and a VPN link).

> a couple of WAP-11 APs, with a 6to4 conversion prior to things going
> back to the campus (currently ISDN, soon, real soon, 5 mile
> [legal per
> 36dBm restrictions maths] 802.11a or b link).  Later, as I get the
> campus IPv6 network running I'll be native therein, and we'll
> convert at
> the campus edge.  And sometime in 2003, I hope to extend the

IPv6 here is one of my unofficial experiments, but I am also looking to
ensure any future purchases of networking equipment can handle IPv6, as it
may become important towards the end of the working life of new gear, and
certainly be an issue for the following generation of equipment.

> A largish number of Linux apps, including Apache, handle IPv6 well.
> Mozilla's fine, there's also parallel apps: traceroute6, tracepath6,
> ping6, ssh6, etc.

I just use OpenSSH.  Recompile on an IPv6 enabled machine and you're away.

> On this side of the pond, we're expecting the ISPs to be some of the
> last to go.  Several of the carriers are experimenting with backbone
> IPv6 or have implementation plans.  Internet2's Abilene
> Network backbone
> has migrated already.  (Did I mention that Abilene's going to
> 10GBE as a

There's not a lot of activity in IPv6 circles here.  Some of the major
carriers have allocations, but none advertise them.  The research institutes
are starting to conduct seminars and offer tunnels, but the most active area
seems to be the wireless experimenters.  IPv6 is like a magnet to a bunch of
geeks. :)

---
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## 133. [ss] Re: ss digest: January 18, 2003

From: Phil Karn <karn@ka9q.net>
Date: Wed, 22 Jan 2003 20:31:52 -0800
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116718-2003.01.22-23.18.59--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Tony Langdon wrote:

> I just use OpenSSH.  Recompile on an IPv6 enabled machine and you're away.

Yes, OpenSSH really supports IPv6 well. Not only is it my single most
important network application, its TCP tunneling scheme lets you carry
many other TCP apps whether they know anything about IPv6 or not.

Along the same lines, TCP servers that can talk over an already-opened
socket stream (which is most of them) can be blissfully unaware that
they're using IPv6. Only the xinetd daemon that spawns them has to know
about IPv6, which it does.

That said, most of the important Linux apps already have direct support
for IPv6. About the only major remaining exception is the Squid web
proxy cache. There are IPv6-enabled forked versions, but last time I
looked it's not in the main production version yet.

Phil

---
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## 134. [ss] Re: ss digest: January 18, 2003

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Thu, 23 Jan 2003 16:09:19 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116722-2003.01.22-23.56.28--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> That said, most of the important Linux apps already have
> direct support
> for IPv6. About the only major remaining exception is the Squid web
> proxy cache. There are IPv6-enabled forked versions, but last time I
> looked it's not in the main production version yet.

That's my main frustration.  I like Squid as a proxy cache, been using it in
IPv4 land for years, but IPv6 support isn't standard, and I haven't been
able to get the CVS IPv6 version to compile.  Also hear that version has a
number of bugs as well. :-(

And yes, agreed on the direct IPv6 support.  I've found the same thing -
it's readily available in most apps.

---
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Version: 6.0.443 / Virus Database: 248 - Release Date: 10/01/2003

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## 135. [ss] Re: Possible SPAM (accuracy low): Re: ss digest: January 18, 2003

> I can see three ways that Ham Radio can help in the average disaster
 > a) Clerical work such as answring phones etc
 > b) Get some of the Ham technologies into the emergency services.
> Get APRS onto fire trucks and water bombers.
 > c) Convince people like phil to make their phones less reliable

> Darryl

> d) Initially hook and and educate interested members of the
> public in radio technology and electronics;

> Phil

e) Early warning systems.

We have people with remote-sensing satellite receivers and
packet weather stations.

I doubt we're doing anything with the data.

We could deploy huge numbers of field telemetry devices
to monitor river water levels, seismology, pollutants etc,
and packet infrastructure could get that data back to base
for processing and presenting fancy maps & graphs on the
web.

I bet there's a lot more that can be inferred about
the environment through measuring radio propagation
that we're not thinking about.

Experimental systems have been set up to detect and locate
lightening strikes which could be used as severe weather
predictors, warnings to aviation, etc.

f) Non-communication uses

Our millimetric bands could be used to build scanning
& imaging devices. There's never been anything to stop
hams building radars & metal-detectors, and microwave
imaging is a great area for growth and research. In can
be used to detect concealed weapons, or to locate people
in a building.

Radio can also be used for security ID tag systems.

Detection of buried hazards like cables & mines by radio.

Detection of unauthorised entry to harbours, airports,
wildlife reserves.

Detection of medical conditions like heart attack.
(this is a biggie as the biggest killers are medical;
not accident or disaster.)

Experimenting with collision avoidance systems.

There's a need for positioning systems to augment GPS;
if you've ever used one, you'll know it all falls over
when you meet a few trees or go in a building. It's
not bad for vehicles but for tracking people like rescue
workers it's useless.

We still have communication problems that need solving
for underground and underwater applications; diving and
mining being the most dangerous occupations. Our low-signal
low-bandwidth modes like PSK31 might be applied to pocket
status beacons for LF etc.

g) Low-cost (lo-tech?) systems for developing world

We may see our own western countries as well-equipped for
emergency; there may be more need elsewhere. Much
lower-cost solutions may be needed; solutions economical
in sparsely-populated areas; tailored to places with

no mains electricity, no phones, no maintenance
facilities or installation skills...

We could also help charities operating abroad; flying
doctors, aid agencies etc. Many are using ham radio
rigs and ham packet datacomms; but don't seem to be
using the hams!

IMO it's preferable to predict and prevent disaster
rather than pick up the corpses afterwards. I'd be
interested to hear your thoughts on whether it is
a suitable use of amateur bands; ie security,
environmental monitoring, hazard alerting.

Sure as hell I'd rather build a system that finds
unexploded mines than a system that rescues children
with no legs.


Ant



---
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## 136. [ss] Re: Possible SPAM (accuracy low): Re: ss digest: January 18, 2003

From: Gerry Creager <gerry.creager@tamu.edu>
Date: Thu, 23 Jan 2003 09:50:42 -0600
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116803-2003.01.23-10.37.55--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Interesting concept...
gerry

Anthony.N.Martin@marconiselenia.com wrote:
>
>>I can see three ways that Ham Radio can help in the average disaster
>
>  > a) Clerical work such as answring phones etc
>  > b) Get some of the Ham technologies into the emergency services.
>
>>Get APRS onto fire trucks and water bombers.
>
>  > c) Convince people like phil to make their phones less reliable
>
>
>>Darryl
>
>
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>>public in radio technology and electronics;
>
>
>>Phil
>
>
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>
> We have people with remote-sensing satellite receivers and
> packet weather stations.
>
> I doubt we're doing anything with the data.
>
> We could deploy huge numbers of field telemetry devices
> to monitor river water levels, seismology, pollutants etc,
> and packet infrastructure could get that data back to base
> for processing and presenting fancy maps & graphs on the
> web.
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> I bet there's a lot more that can be inferred about
> the environment through measuring radio propagation
> that we're not thinking about.
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> Experimental systems have been set up to detect and locate
> lightening strikes which could be used as severe weather

> predictors, warnings to aviation, etc.
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> Our millimetric bands could be used to build scanning
> & imaging devices. There's never been anything to stop
> hams building radars & metal-detectors, and microwave
> imaging is a great area for growth and research. In can
> be used to detect concealed weapons, or to locate people
> in a building.
>
> Radio can also be used for security ID tag systems.
>
> Detection of buried hazards like cables & mines by radio.
>
> Detection of unauthorised entry to harbours, airports,
> wildlife reserves.
>
> Detection of medical conditions like heart attack.
> (this is a biggie as the biggest killers are medical;
> not accident or disaster.)
>
> Experimenting with collision avoidance systems.
>
> There's a need for positioning systems to augment GPS;
> if you've ever used one, you'll know it all falls over
> when you meet a few trees or go in a building. It's
> not bad for vehicles but for tracking people like rescue
> workers it's useless.
>
> We still have communication problems that need solving
> for underground and underwater applications; diving and
> mining being the most dangerous occupations. Our low-signal
> low-bandwidth modes like PSK31 might be applied to pocket
> status beacons for LF etc.
>
> g) Low-cost (lo-tech?) systems for developing world
>
> We may see our own western countries as well-equipped for
> emergency; there may be more need elsewhere. Much
> lower-cost solutions may be needed; solutions economical
> in sparsely-populated areas; tailored to places with
> no mains electricity, no phones, no maintenance
> facilities or installation skills...
>
> We could also help charities operating abroad; flying
> doctors, aid agencies etc. Many are using ham radio
> rigs and ham packet datacomms; but don't seem to be
> using the hams!
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> IMO it's preferable to predict and prevent disaster
> rather than pick up the corpses afterwards. I'd be
> interested to hear your thoughts on whether it is
> a suitable use of amateur bands; ie security,
> environmental monitoring, hazard alerting.
>
> Sure as hell I'd rather build a system that finds
> unexploded mines than a system that rescues children
> with no legs.
>
>
> Ant
>
>
>
>
> ---
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--
Gerry Creager -- gerry.creager@tamu.edu
Network Engineering -- AATLT, Texas A&M University
Office: 979.458.4020  FAX: 979.847.8578
Cell: 979.229.5301    Pager: 979.228.0173

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## 137. [ss] Re: ss digest: January 18, 2003

From: Anthony.N.Martin@marconiselenia.com
Date: Thu, 23 Jan 2003 18:05:20 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116818-2003.01.23-12.52.34--lyris.ss#tapr.org@lists.tapr.org>
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> As for Win2k, there are actually two IPv6 packages from Microsoft.  I've
> been running one of them for some time without any hassles on a few
machines
> (including this one).

...

> One thing of interest will be what .Net supports, since this will have
the
> first production IPv6 stack from MS.

So if I install .Net, like Windows Update wants me to,
I might get IPv6 support on Windows ME?

Win-ME is newer than Win2000

If they're gonna do this .net thing they've gotta
do the full monty.

I shall be sending questions to ISPs to see which one
I should support in future. If we all do it that should
focus their minds a little.

It's really just a matter of turning on the right switch
on their router instead of dumping IPv6 packets in the
bit-bucket, and claiming their wedge of address space.
Their PAP/CHAP/DHCP may need a tweak - if you ask for an
IPv6 address (or some) it should hand it over. In fact
isn't fixed addressing back on the menu?

It'll be nice not to need NAT; that makes v6 easier
than suffering on with IPv4. v6 is the fix; NAT is
the kludge. Kludges always come with grief inexplicable
to average users.

You have a good point to check anything you buy will at
least be forward-compatible. We don't want people
buying WLAN-DSL-routers and have to dump them in the bin.
The standards are well-established; compliance isn't a
problem. Some devices can be firmware-updated if your
supplier is still in business, and is still talking
to his supplier, etc.

Ant

---
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## 138. [ss] Re: ss digest: January 18, 2003

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Fri, 24 Jan 2003 08:25:58 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116847-2003.01.23-16.13.27--lyris.ss#tapr.org@lists.tapr.org>
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> So if I install .Net, like Windows Update wants me to,
> I might get IPv6 support on Windows ME?

No, that line of Windows is dead, ME was really only put out for domestic
use, after concerns abut the suitability of Windows2000 for things like game
playing.

> If they're gonna do this .net thing they've gotta
> do the full monty.

Yep.
>
> I shall be sending questions to ISPs to see which one
> I should support in future. If we all do it that should
> focus their minds a little.
>
> It's really just a matter of turning on the right switch
> on their router instead of dumping IPv6 packets in the
> bit-bucket, and claiming their wedge of address space.
> Their PAP/CHAP/DHCP may need a tweak - if you ask for an
> IPv6 address (or some) it should hand it over. In fact
> isn't fixed addressing back on the menu?

IPv6 is intended to be provider based addressing.  Yes, you will get static
IP addresses, but ONLY if you stick with the one ISP.  Change ISPs and your
address prefix WILL change.

> It'll be nice not to need NAT; that makes v6 easier
> than suffering on with IPv4. v6 is the fix; NAT is
> the kludge. Kludges always come with grief inexplicable
> to average users.

Agreed.  It's nice to have a bunch of static addresses...
>
> You have a good point to check anything you buy will at
> least be forward-compatible. We don't want people
> buying WLAN-DSL-routers and have to dump them in the bin.
> The standards are well-established; compliance isn't a
> problem. Some devices can be firmware-updated if your
> supplier is still in business, and is still talking
> to his supplier, etc.

Yes, purchase carefully, or roll your own - Linux and *BSD can be turned
into nice IPv4/IPv6 router/firewalls.  I believe FreeBSD has one of the more
mature IPv6 stacks.  It will be interesting to see what goodies the Linux
2.6 kernel has when it comes out. :)

---
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Version: 6.0.443 / Virus Database: 248 - Release Date: 10/01/2003


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## 139. [ss] [Fwd: [IP] Spectrum Allocation Conference]

From: "Eric S. Johansson" <esj@harvee.billerica.ma.us>
Date: Fri, 24 Jan 2003 08:31:01 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116962-2003.01.24-08.18.11--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

-------- Original Message --------
Subject: [IP] Spectrum Allocation Conference
Date: Fri, 24 Jan 2003 02:48:40 -0500
From: Dave Farber <dave@farber.net>
Reply-To: dave@farber.net
To: ip <ip@v2.listbox.com>


Spectrum Policy:
Property or Commons?
Stanford Law School
March 1-2, 2003

Sponsored by:

Thomas Hazlett, the Manhattan Institute, and
Lawrence Lessig of the Stanford Law School Center for Internet and Society
Full conference details and registration at:
http://cyberlaw.stanford.edu/spectrum/

Highlights:

**A moot court where "property" proponents Thomas Hazlett and Professor Gerald R. Faulhaber will debate "commons" proponents Professor Lawrence Lessig and Professor Yochai Benkler about which architecture most effectively promotes efficiency and innovation. This moot court will honor Nobel Prize winning economist Ronald Coase, who criticized the FCC's spectrum policy in 1959, arguing that rules preempting private ownership of spectrum led to catastrophic inefficiencies in the market. The Judges will include FCC Chairman Michael Powell, renowned economist Harold Demsetz, and Ninth Circuit Court of Appeals Judge Alex Kozinski.

**Professor Yochai Benkler, from NYU Law School, presenting a proposal to treat spectrum as a commons with comments by Professors Gerald R. Faulhaber, former FCC Chief economist, Professor David Farber, former FCC technologist, Professor Howard Shelanski, former FCC Chief Economist, and J. Gregory Sidak, Director of AEI's Telecommunications Deregulation Project.

**Presentations of two property based proposals for regulating spectrum, including "A Proposal for a Rapid Transition to Market Allocation of Spectrum" from the FCC Office of Plans and Policy and a paper by Thomas Hazlett of the Manhattan Institute, with comments by Dewayne Hendricks, CEO of the The Dandin Group, Tim Shepard, and Kevin Werbach, former Counsel for New Technology Policy at the FCC.

**Dr. David P. Reed explaining what's different about emerging spectrum technologies? Why do they present new regulatory issues? what's new, and just why that should matter.

**Lunch panel with presentations on a number of business models for utilizing spectrum under both property and commons regulatory regimes including mesh networks and Community wireless networking.

** Sunday Workshop on "Spectrum Etiquette" where participants will explore whether the unlicensed spectrum band needs etiquette rules at this time? Or should the FCC leave the space alone?

Full conference details and registration at:
http://cyberlaw.stanford.edu/spectrum/

Registration:

  Corporate ($695)
  Academic/Non-Profit/Government ($195)
  Student ($50)
  Press (free, but must register)

CLE credit available
--
Lauren Gelman, Esq.
Assistant Director
Center for Internet and Society

Stanford Law School
Crown Quadrangle
559 Nathan Abbott Way
Stanford, CA 94305-8610

(ph) 650-724-3358
(fax) 650-723-4426
gelman@stanford.edu


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## 140. [ss] Re: ss digest: January 18, 2003

From: Anthony.N.Martin@marconiselenia.com
Date: Fri, 24 Jan 2003 14:37:05 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116971-2003.01.24-09.24.19--lyris.ss#tapr.org@lists.tapr.org>
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> IPv6 is intended to be provider based addressing.  Yes, you will get
static
> IP addresses, but ONLY if you stick with the one ISP.  Change ISPs and
your
> address prefix WILL change.

So what happens to mobile or roaming users?

Those that connect to company networks at work,
an ISP at home, an ISP which you use when the
other is belly-up, a different ISP when abroad
on business, and another one when they connect
via a mobile phone?

OK there's "mobile IP" which forces packets
to transit the network unnecessarily, adds delay,
and assumes one has a "home base" network.

When do you think we'll get the holy grail of
"an IP address fixed for life"?

It seems a retrograde step, composing user
numbers mainly of routing info. We had that
problem with the 'phone system in the early
days, but we've long since gone to lookup
tables so that your phone number isn't fixed
by the terminals on the exchange the wires are
attached to. Phone number prefixes seem to be
tied to tariffs these days, although the rest
of the numbers are portable across service
providers.

In theory, users reference machines by name so
what matters is getting the name-to-IP translation
right in DNS.

I've messed with BIND a little and allowing clients
to update their own entry is an option (if they had
software which did it.) It is possible to give every
client a key to enable access to their BIND entry,
although this isn't the normal intent. On a DNS
server with 1000 entries it would get very slow as
the config files would be massive and impossible to
maintain unless you wrote some tools. If you can
trust all the users in your domain with one key it
would be OK.

Typical BIND setups cache for long periods and there
isn't a good mechanism for propagating change across
cached data. I think that's the real problem with
using DNS to support dynamic IP addresses. It would
be nice if you could set the lifetime of your own
entry, I wonder if that's allowed?

---
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## 141. [ss] [Fwd: [IP] Intel tips plans for reconfigurable radio architecture]

From: "Eric S. Johansson" <esj@harvee.billerica.ma.us>
Date: Fri, 24 Jan 2003 10:06:44 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116975-2003.01.24-09.53.55--lyris.ss#tapr.org@lists.tapr.org>
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-------- Original Message --------
Subject: [IP] Intel tips plans for reconfigurable radio architecture
Date: Fri, 24 Jan 2003 09:16:03 -0500
From: Dave Farber <dave@farber.net>
Reply-To: dave@farber.net
To: ip <ip@v2.listbox.com>

------ Forwarded Message
From: Dewayne Hendricks <dewayne@warpspeed.com>

Intel tips plans for reconfigurable radio architecture
By Ron Wilson, EE Times
Jan 22, 2003 (11:16 AM)
URL: <http://www.commsdesign.com/story/OEG20030122S0037>

SAN JOSE, Calif. - Intel Corp. provided the first details of its reconfigurable radio architecture this week at the Software-Defined Radio Forum, where the company described an array of processors that will implement a range of physical layer and media-access control combinations.

In its first public discussion of its plans since Intel's chief technology officer Patrick Gelsinger revealed an intent to pursue reconfigurable radio at last year's Intel Developer Forum, Intel made it clear that its approach will differ from most other companies at the workshop. Rather than relying on programmable logic, Intel researcher Jeffrey Schiffer said Monday (Jan. 20) that the company's architecture will use a heterogeneous array of processors. Some will be general-purpose DSPs, and others will be tuned to process particular algorithms. Schiffer said the individual processors will be of intermediate complexity, between an FPGA and a modest CPU.

The processors are not bused, but rather are connected through a mesh that emphasizes nearest-neighbor relationships. This both offers a natural implementation for data flow organizations and reduces the power and signal integrity issues that come with long interconnect lines.

The mesh of processors is terminated on two sides by an array of I/O engines, with one array serving as an input device and the other serving as output. In front of the input processors resides a switchable array of analog front-ends - and, presumably, antennas - allowing the entire system to hop gracefully between frequency bands. Different analog front-ends provide different pre-filtering and signal capture/conversion. Behind the output array lives a collection of various media-access controller (MAC) devices.

Transparent configuration

Intel conceives the architecture as a solution to the problem of highly mobile digital appliances that must move not only from cell to cell, but from protocol to protocol and band to band in order to maintain connectivity. In operation, the proposed Intel device would continually query its environment to determine what services were available. It would then switch on the appropriate antenna and analog front-end combination to connect to the service, and configure out of the processor array an appropriate PHY/MAC layer implementation for that standard. This process would be transparent to the user, except for permission and billing issues.

Intel researchers have estimated that such a configurable array approach would be considerably less efficient, in both real estate and power, than a hard-wired PHY/MAC solution, or even two of them. But when the number of PHY/MAC combinations that must be supported reaches three, the Intel approach breaks even with dedicated engines. Above that number, the array is more efficient.

Thus Intel suggested that reconfigurable radio devices of the future will not challenge single-provider terminals. Rather, they would have a major role when the terminal is mobile and must move freely between numerous incompatible wireless network services.

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<http://web.wireless.com/index.php?name=Mailing_List&fn=viewml&mid=4>
Weblog at: <http://weblog.warpspeed.com>

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## 142. [ss] RE: [Fwd: [IP] Intel tips plans for reconfigurable radio architecture]

From: "Paul Mcinnish" <pmcinnish@cirronet.com>
Date: Fri, 24 Jan 2003 10:23:35 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-116978-2003.01.24-10.05.07--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Heck... this ain't anything new!  We have had software reconfigurable
radios for years!  How about over 100+ parameters?

All frequency hopping, of course; in the 2.4 GHz ISM band and just
announced our 5.8 GHz radios!  No direct sequence in our bag of tricks!
Does not lend itself very well to noise, interference and jamming
immunity!

NOPE!  NOT 802.11x -- too many bullet holes in the 802.11 standards for
the applications our products are used in!  Our customers like security
without having to invest in extensive encryption techniques!

Very best regards,

Paul McInnish - K4BET
Business Development Manager
Cirronet, Inc.
5375 Oakbrook Parkway
Norcross, GA 30093
USA

Direct Pho:  +678.684.2011
Fax: +678.684.2001
Web URL: http://www.cirronet.com
E-mail: k4bet@cirronet.com

-----Original Message-----
From: Eric S. Johansson [mailto:esj@harvee.billerica.ma.us]
Sent: Friday, January 24, 2003 10:07 AM
To: TAPR Spread Spectrum Special Interest Group
Subject: [ss] [Fwd: [IP] Intel tips plans for reconfigurable radio
architecture]



-------- Original Message --------
Subject: [IP] Intel tips plans for reconfigurable radio architecture
Date: Fri, 24 Jan 2003 09:16:03 -0500
From: Dave Farber <dave@farber.net>
Reply-To: dave@farber.net
To: ip <ip@v2.listbox.com>


------ Forwarded Message
From: Dewayne Hendricks <dewayne@warpspeed.com>



Intel tips plans for reconfigurable radio architecture
By Ron Wilson, EE Times
Jan 22, 2003 (11:16 AM)
URL: <http://www.commsdesign.com/story/OEG20030122S0037>

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The mesh of processors is terminated on two sides by an array of I/O engines, with one array serving as an input device and the other serving as output. In front of the input processors resides a switchable array of analog front-ends - and, presumably, antennas - allowing the entire system to hop gracefully between frequency bands. Different analog front-ends provide different pre-filtering and signal capture/conversion. Behind the output array lives a collection of various media-access controller (MAC) devices.

Transparent configuration

Intel conceives the architecture as a solution to the problem of highly mobile digital appliances that must move not only from cell to cell, but from protocol to protocol and band to band in order to maintain connectivity. In operation, the proposed Intel device would continually query its environment to determine what services were available. It would then switch on the appropriate antenna and analog front-end combination to connect to the service, and configure out of the processor array an appropriate PHY/MAC layer implementation for that standard. This process would be transparent to the user, except for permission and billing issues.

Intel researchers have estimated that such a configurable array approach would be considerably less efficient, in both real estate and power, than a hard-wired PHY/MAC solution, or even two of them. But when the number of PHY/MAC combinations that must be supported reaches three, the Intel approach breaks even with dedicated engines. Above that number, the array is more efficient.

Thus Intel suggested that reconfigurable radio devices of the future will not challenge single-provider terminals. Rather, they would have a major role when the terminal is mobile and must move freely between numerous incompatible wireless network services.

Archives at:
<http://web.wireless.com/index.php?name=Mailing_List&fn=viewml&mid=4>
Weblog at: <http://weblog.warpspeed.com>

------ End of Forwarded Message

---
You are subscribed as esj@harvee.billerica.ma.us
To unsubscribe or update your address, click
   http://v2.listbox.com/member/?listname=ip

Archives at:
http://www.interesting-people.org/archives/interesting-people/

---
You are currently subscribed to ss as: k4bet@digital-wireless.com
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 143. [ss] RE: [Fwd: [IP] Intel tips plans for reconfigurable radio architecture]

From: Anthony.N.Martin@marconiselenia.com
Date: Fri, 24 Jan 2003 19:51:35 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-117003-2003.01.24-14.38.47--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Heck... this ain't anything new!  We have had software reconfigurable
> radios for years!  How about over 100+ parameters?

Software adjustable parameters are hardly the same
as the reprogrammable waveform processors suggested
by Intel. Could your wireless adapt to comply with 802.11
standards where public access exists? Or GSM? What
Intel is proposing isn't just support for 802.11,  but GSM,
PCS, GPRS, EDGE, 3G, CDMA, Iridium, GPS, Bluetooth
COFDM broadcast radio & TV etc from one baseband
chipset. Plus modems like DOCSIS, ADSL, VDSL..  The
article makes the leap to suggest direct connection to
antennas but it's more likely that the RF sections are
off-chip; Intel is not an RF chip company. As such it's
comparable to other signle-chip basebands. The logic
is that your need for a comms link is generally satisfied
by one modulation & protocol at a time, although it varies
by location.

Remember this thing isn't limited to LAN data applications
or even to data modulation.

Think:

Why shouldn't this chip appear in your next ham rig?

It would be perfectly capable of doing SSB, NBFM,
AFSK, FSK, MSK, PSK, QPSK, ATV,  802.11FH,
802.11DS, STANAG4285 etc etc etc

Uh, I suppose we've had DSP chips perfectly capable
of all the above bar 802.11 for years and nothing's
happened... Duh, high time fingers were pulled out.

You could, of course, implement Cirronet solutions
on Intel's chip, so everyone can have the benefit of
roaming into Cirronet wireless networks.

> All frequency hopping, of course; in the 2.4 GHz ISM band and just
> announced our 5.8 GHz radios!  No direct sequence in our bag of tricks!
> Does not lend itself very well to noise, interference and jamming
> immunity!

I agree FH is preferable, 802.11FH offers more protection
than 802.11 DS, especially 802.11b which has none. To
some extent the behaviour of FH and DS is a consequence
of parameters to fit them within the regulatory box rather than
inherent in the technology.

ie. the parameters of DS could be set so it had similar
QRM characteristics to FH, but would it comply with
FCC part15 / EN300-328 limits?

I don't know if turning the ISM spectrum into a war-zone
is an optimal way to go... I think it's better not to have
independent fighting factions but to have common
protocols for negotiating contention-free access
to get best spectrum utilisation.

Ant

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 144. [ss] New List - ham-80211@lists.tapr.org

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Sun, 26 Jan 2003 23:17:33 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>

Message-ID: <LYR6751-117282-2003.01.26-07.07.10--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Given the increased interest in Amateur applications for 802.11b, we
have decided to add another mailing list for discussions specifically on
its implementation in the Ham Radio world.

The list is designed to be a meeting place for all 802.11b experimenters
- regardless of where in the world they are located, or what protocol
changes are being advocated.

If you wish to join this mailing list the best way is probably to visit
the following URL

        http://www.tapr.org/cgi-bin/lyris.pl?enter=ham-80211&text_mode=0

To post to this mailing list send an email to

        ham-80211@lists.tapr.org

Darryl
TAPR Board Member.
---
Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 145. [ss] Re: New List - ham-80211@lists.tapr.org

From: Anthony.N.Martin@marconiselenia.com
Date: Wed, 29 Jan 2003 10:50:40 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-117844-2003.01.29-05.38.16--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Given the increased interest in Amateur applications for 802.11b, we
> have decided to add another mailing list for discussions specifically on
> its implementation in the Ham Radio world.

Sensible move, Daryl.

Does this mean 802.11 standards not 802.11b (the bravo version)
stay here?

Please clarify.

I suggest the new list be for all 802.* wireless-related standards,
owing to substantial commonality and necessity of other
802 protocols as part of WLAN gear.

In my humble opinion, it would be desirable if *this* SS list
mutated to cover all high-rate UHF/microwave packet and
data interests, be they SS or not.

It's gonna get dead otherwise - which it seems to have already!

The current set of listserv groups have somewhat orthogonal
overlapping subjects - eg. HFSIG is a frequency split, whereas
SS-SIG is a modulation split that cuts across frequency.
Realistically I'd discuss FHSS at HF on HFSIG anyhow, if
people were interested.

Ant

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 146. [ss] RE: ss digest: January 29, 2003

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Thu, 30 Jan 2003 16:51:13 +1100

To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-118007-2003.01.30-00.38.32--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>> Given the increased interest in Amateur applications for 802.11b, we
>> have decided to add another mailing list for discussions specifically

>> on its implementation in the Ham Radio world.
>
>Does this mean 802.11 standards not 802.11b (the bravo version) stay
here?

802.11{abc....xyz} standards can be discussed on the new list... We
called it the 802.11b list just to focus attention...

>I suggest the new list be for all 802.* wireless-related standards,
owing to substantial commonality and necessity of other
>802 protocols as part of >WLAN gear.
>
>In my humble opinion, it would be desirable if *this* SS list mutated
to cover all high-rate
>UHF/microwave packet and data interests, be they SS or not.
>
>It's gonna get dead otherwise - which it seems to have already!
>
>The current set of listserv groups have somewhat orthogonal overlapping
subjects - eg.
>HFSIG is a frequency split, whereas SS-SIG is a modulation split that
cuts across
>frequency. Realistically I'd discuss FHSS at HF on HFSIG anyhow, if
people were interested.
>
>Ant

The Spread Spectrum list is a great place to discuss any issue with data
communications, but really it should be focused on Spread Spectum if
possible. Due to the nature of SS experimentation I sort of hope that
this SIG will expand into a SS, RF and High Speed Networking SIG. But
that is not my choice to make. It is the choice of the participants.

The users make up the list. It really is up to the users to decide what
becomes of it. One mailing list I belong to is for a computer - the
Applix 1616 - which we are pretty sure is extinct. The list has just
changed topic over time...

Does this help explaining things?

Darryl

P.s. I didn't get the parcel sent. The person who was going to send it
was in the UK for 24 hours, and that was a Sunday so he realised he
would not get a chance.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 147. [ss] TAPR List Sponsorship

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Thu, 30 Jan 2003 21:38:19 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-118025-2003.01.30-05.26.15--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

People

Most of you would be aware that TAPR hosts this and other mailing lists.

You may not be aware of some of the other things that TAPR does, such as

        Sponsoring the development of 'Enabling Technologies' such as
                * High speed AD interfaces
                * New PIC-Encoder

Sponsoring new projects
Producing kits
Running the annual Digital Communications Conference
Providing the TAPR.ORG WWW site with software archive
Providing the PSR magazine free to members and non-members

All of these things cost money. One way you can support TAPR in what it
is doing is to become a member of the organisation. Membership only
costs
US$20 per year and provides support to all these activities. You can
find
More information on www.tapr.org

If you cannot afford the annual membership, we would be happy for you to
Contribute in other ways. If you cannot find a project to assist with
Please contact me and I will find one for you.

Darryl Smith, VK2TDS
TAPR Board Member

---
Darryl Smith, VK2TDS  POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 148. [ss] RE: ss digest: January 29, 2003

From: Anthony.N.Martin@marconiselenia.com
Date: Thu, 30 Jan 2003 17:20:00 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-118058-2003.01.30-12.07.27--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> 802.11{abc....xyz} standards can be discussed on the new list... We
> called it the 802.11b list just to focus attention...

Keep an eye on the 802.15 WPAN group
http://grouper.ieee.org/groups/802/15/

I have seen rumours that TG3a may standardise a high-rate UWB
mode for a wireless equivalent to USB2.0 (ie 500Mb/s)

802.16 is the standardisation effort on WMAN aka broadband
wireless access ("last-mile") systems. There is an interesting
"Mobile Wireless MAN study group" looking at MBWA (mobile
broadband wireless access) standards. Compare & contrast with 3G!

MBWA looks very much what 3G should have been - packet-switched,
IP-based, PC-client rather than handset. And someone has finally
recognised the necessity of adaptive antennas for high-rate
low-power systems - antenna gain is necessary in the link budget.
Looks like low-cost steerable antenna technology will be a major
R & D effort over the next 5 years.

> P.s. I didn't get the parcel sent. The person who was going to send it
> was in the UK for 24 hours, and that was a Sunday so he realised he
> would not get a chance.

Righto. I'll pay the postage.

Things I want to do real soon:

Become a paid-up member of TAPR!

Write down some proposals for new kits/projects,
publish & get comments

Subscribe to the new 802.11 list

Probably have to subscribe to APRS list and other
lists too - but I'm already drowning in lists, spam, etc.
2nd thoughts - I may stay off the 802.11 list as it was

consuming rather a lot of my time.

I need to get this packet router box I'm building off
the bench first - I don't want to shelve half-done
projects & being able to monitor, log & generate all
kinds of packet traffic will be necessary for testing
future packet data projects.

Ant M1FDE

---
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To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

# March 2003

Original source file: ss.0303
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/ss.0303

## 1. [ss] TAPR Monthly Update

From: John Ackermann  N8UR <jra@febo.com>
Date: Sun, 02 Mar 2003 18:40:34 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-122837-2003.03.02-18.36.02--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

(Sent on behalf of Darryl, VK2TDS, TAPR Membership Director -- mailto: vk2tds@tapr.org)

People

TAPR Membership

Running TAPR takes resources, and as a non-profit organisation we rely on members for part of our funding. If you support the work that TAPR is doing, we would welcome your membership of the organisation. You can join by clicking on http://www.tapr.org/tapr/html/orgf.html . We have also been listening to members requesting that we support electronic commerce. TAPR are currently testing the use of PayPal in association with the current ordering system on the Web. We will post a message on the WWW site as soon as this is available.

Until then you can still join. Just fill out the electronic form as normal, and state in the comments that you want to pay with PayPal when it is available.

Digital Communications Conference

This years DCC will take place at the Hartford/Windsor Marriott Airport Hotel in Windsor, Connecticut, on the weekend of September 19-21, 2003. The hotel is 6 miles south of Bradley International Airport (BDL) and 13 miles north of ARRL Headquarters in Newington. Information will soon be available on http://www.tapr.org/tapr/html/conff.html. Until then you can find more information in the PSR at ftp://ftp.tapr.org/psr/Winter_86_2003.pdf

We will soon be issueing a call for papers for this event. Have a think about what you want to write about and start planning your paper now. If you are unable to come up with a subject, it is often possible to find friends with something to write about, but who don't have the time. You can help your friend and the Ham community by writing the paper on their behalf. There will be two popular discussion points at the conference - Software Defined Radios and 802.11 networks.

DCC Conference Proceedings

We have also reduced the price of each of the proceedings of the DCC up until 1997 to only US$6 each. This makes the a real bargain. We are also making available sets of volume 1-10 and 11-16 available for $US$33 each - but please bear in mind that we no longer have copies of a number of the proceedings so we cannot guarenttee that the sets will be complete.

Electronic Distribution of Packet Status Register (PSR) Magazine

Listening to members we have found that many people are concerned about missing out on the PSR now that it has gone electronic. We recognise this as an issue, and we have come up with a solution to make things a bit easier in this digital age. We have created two mailing lists to assist you with keeping up to date with the quarterly magazine. They are

PSR-Announce
PSR-PDF

PSR-Announce is designed to advise the availability of the PDF file for download. We recognise that many people are on slow internet connections at home, or in fact have to pay for their bandwidth. So we have created a mailing list just to tell you when the magazine comes out, and to let you know how to get it. You can subscribe by visiting

http://www.tapr.org/cgi-bin/lyris.pl?enter=psr-announce&text_mode=0

PSR-PDF is designed for people who have a faster internet connection, or who know that they will never get to read it unless it is sent directly to them. Since PSR often contains graphics, the file can be over one mByte. You can subscribe by clicking http://www.tapr.org/cgi-bin/lyris.pl?enter=psr-pdf&text_mode=0

802.11 Mailing List

Whilst we are on the subject of mailing list, TAPR have started a mailing list for 802.11 'Wireless Internet' operations. It seems that every community has a mailing list dedicated to 802.11. So how is the TAPR one different? It is dedicated to 802.11 use in ham radio. The list contains active members of the entire range of technical ability - from the most basic understanding of how radio works, to the deep internals of this equipment. Such a broad range that everyone is sure to fit in. You can join by visting http://www.tapr.org/cgi-bin/lyris.pl?enter=ham-80211&text_mode=0

GNUradio receives HDTV

Matt Etus and the other people at the GNUradio project have announced that they have managed to decode the HDTV data stream on their PC's and have published the source code online. This is an amazing feat by Matt and the team. They are not quite to the stage of real time HDTV decoding on a PC, but are close.

Write for PSR!!!

PSR needs articles, and we would love to publish lots more in the PSR magazine. PSR is a great place to publish articles on everything from local operating practices to deep technical papers. And since the last issue TAPR is now rewarding those people who are helping others by writing articles for the magazine. Following the last issue, six people had their memberships extended by three months. This is just a small thank you from us at TAPR to those people who help us out. More details on PSR can be found on www.tapr.org

Conclusion

I hope you have found this document informative and useful. TAPR is always looking for new things to do and how to improve what it is already doing. If you have any ideas or concerns, please email me on darryl@radio-active.net.au

Darryl

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 2. [ss] Broadband Transducers & Loads

From: "P.Gavalas" <ELA97PG@sheffield.ac.uk>
Date: Tue, 4 Mar 2003 11:38:26 -0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-123149-2003.03.04-06.27.50--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I managed to model a broadband transducer at 900 MHz. A very cheap one to make as well. You need a WR975 and my exotic design.

It is a scalable design as well. I guess I can a chieve something like 800MHz of bandwidth at around 2.4GHz..

For a standard WG16 for example i managed to get 4GHz of bandwidth 8-12GHz and so on...

Still there isn't a proper load for the WR 975. How can I make one?

The Uni doesn't have one and they 'encourage' me to stop the
tests... Pity...

Whoever helps me will be agnoledged on my report. If anyone has
got a way round to this please let me know ASAP.

Regards,
Panos

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 3. [ss] Proxim Symphony throughput?

From: "Marcelo Puhl" <mark@cpovo.net>
Date: Wed, 05 Mar 2003 22:27:31 -0300
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-123545-2003.03.05-20.15.59--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,

Does anybody know what is the expected throughput on a peer-to-peer wireless link
using the Proxim Symphony equipment?

Is the throughput a function of the link distance?

I have two of these links between hams that seems to be very slooooow...

1.6 Mbps link:
- 350 meters, LOS
- Bi-quad antennas each side, horizontal polarized
- Proxim Symphony HRF gear

10 Mbps link:
- 3 km not LOS, with reflection on a nearby building
- 24 dBi grid antennas each side, horizontal polarized
- Proxim Symphony HomeRF gear

Thanks.
Mark - PY3SS

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 4. [ss] Re: Proxim Symphony throughput?

From: "P.Gavalas" <ELA97PG@sheffield.ac.uk>
Date: Thu, 6 Mar 2003 11:34:30 -0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-123580-2003.03.06-06.24.01--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The Hartley Shannon Law is a good starting point...

It seems like your link is noisy... which significanlty reduces your
bandwidth in a logarithmic way...

I assume you could try another freq if you can tweak it. Otherwise
increase your power level and signal levels..

Best Regards,
Panos

From: "Marcelo Puhl" <mark@cpovo.net>
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Date sent: Wed, 05 Mar 2003 22:27:31 -0300
Subject: [ss] Proxim Symphony throughput?
Send reply to: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Priority: normal

[ Double-click this line for list subscription options ]

Hi,

Does anybody know what is the expected throughput on a peer-to-peer wireless link
using the Proxim Symphony equipment?

Is the throughput a function of the link distance?

I have two of these links between hams that seems to be very sloooow...

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10 Mbps link:
- 3 km not LOS, with reflection on a nearby building
- 24 dBi grid antennas each side, horizontal polarized
- Proxim Symphony HomeRF gear

Thanks.
Mark - PY3SS

---
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---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 5. [ss] Throughput on IEEE 802.11b

From: "John Champa" <k8ocl@hotmail.com>
Date: Thu, 06 Mar 2003 10:43:45 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-123593-2003.03.06-10.32.53--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Marcelo,

Throughput on 802.11b is directly related to SNR.  If you have maximum
signal you can get 11 Mbps.  As the signal drops off the speed will go down
to 5.5 Mbps.  Finally, it will go down to 1 Mbps, etc.

Also, keep in mind that there is a good bit of overhead with 802.11b, so the
maximum actual throughput is about 9 Mbps.  Couple this with the fact that
802.11b is half-duplex and you are down to about 4 Mbps actual throughput.

However, given the short distances involved, I suspect you have some cable
loss or a bad connector(s) in the systems somewhere.

For much more information, suggest you check out the ARRL High Speed
Multimedia Webpage:  www.arrl.org/hsmm

Vy 73,
John - K8OCL

----Original Message Follows----
From: "TAPR Spread Spectrum Special Interest Group digest"
<ss@lists.tapr.org>
Reply-To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
To: "ss digest recipients" <ss@lists.tapr.org>
Subject: ss digest: March 05, 2003
Date: Thu, 06 Mar 2003 00:00:41 -0500

TAPR Spread Spectrum Special Interest Group Digest for Wednesday, March 05,
2003.

1. Proxim Symphony throughput?

---

Subject: Proxim Symphony throughput?
From: "Marcelo Puhl" <mark@cpovo.net>
Date: Wed, 05 Mar 2003 22:27:31 -0300

X-Message-Number: 1

Hi,

Does anybody know what is the expected throughput on a peer-to-peer wireless
link
using the Proxim Symphony equipment?

Is the throughput a function of the link distance?

I have two of these links between hams that seems to be very sloooow...

1.6 Mbps link:
- 350 meters, LOS
- Bi-quad antennas each side, horizontal polarized
- Proxim Symphony HRF gear

10 Mbps link:
- 3 km not LOS, with reflection on a nearby building
- 24 dBi grid antennas each side, horizontal polarized
- Proxim Symphony HomeRF gear

Thanks.
Mark - PY3SS

---

END OF DIGEST

---
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_____
MSN 8 helps eliminate e-mail viruses. Get 2 months FREE*.
http://join.msn.com/?page=features/virus

---
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## 6. [ss] RE: Throughput on IEEE 802.11b

From: Tony Langdon <tlangdon@atctraining.com.au>
Date: Fri, 7 Mar 2003 08:21:28 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-123625-2003.03.06-16.53.38--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> 802.11b is half-duplex and you are down to about 4 Mbps
> actual throughput.

Hmm, always this magic 1/2 figure seems to get thrown around when
considering a half duplex link.  What is data is flowing in mostly one
direction (with only short ACKs in the other direction)?  Then more than 50%
of the channel's time could be spent actually transferring data.

As a case in point, I have _measured_ throughput between two well sited
(i.e. next to each other) machines running 802.11b and got around 600 kB/sec
(or close to 5 Mbps).

Others in our wireless group have managed even higher on good paths.

I usually test by using a throughput measuring tool, or a plain old FTP
transfer.

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notify the sender. You must not disclose, copy or rely on any part of this
correspondence if you are not the intended recipient.

Any opinions expressed in this message are those of the individual sender.

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 7. [ss] Transponder

From: Alex Fraser <beatnic@comcast.net>
Date: Thu, 06 Mar 2003 23:34:37 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-123695-2003.03.06-23.22.53--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

What problems would you face passing SS through a transponder? By this
I mean a DSSS signal in, mixed with an IF frequency and then out as
another frequency. Can this be done?

--
>>>>>>>>>>>>>>>>----<<<<<<<<<<<<<<<<<
........ Alex Fraser N3DER .........
......... beatnic@comcast.net .......
[~]_>^</\-[~]_>^</\-[~]_>^</\-[~]_>^<

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 8. [ss] Re: Transponder

From: "P.Gavalas" <ELA97PG@sheffield.ac.uk>
Date: Fri, 7 Mar 2003 10:47:37 -0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-123731-2003.03.07-05.36.52--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>>What problems would you face passing SS through a
transponder?

You need to deal with clock, frequency, and distance uncertainties.
On top of that you disquise your signal within noise and you need
to be careful in terms of extracting it. You need a good quality
channel and feedback loops to overcome the uncertainties
mentioned above.

>>By this
>>I mean a DSSS signal in, mixed with an IF frequency and then
>>out as
>>another frequency. Can this be done?

You always have to upconvert your signal. You cannot trasmit
baseband if that's what you're asking. There is a lot of theory
behind this but, the stages are:

1) Spread your signal (DSSS) this will increase your
basebandwidth...
2) Modulate it (FSK-ASK-PSK or whatever suits your channel)
3) Upconvert and there you go!!!

What will you send? Voice? Data chunks?

What's the freq you intend to transmit?

You need to examine your limitations.. You cannot always do as
you wish. Have a look at www.rfcafe.com

Start by considering the type of data you wish to send and the freq
you want to transmit, and you can find out what length of code
you'll use and the best modulation technique.

Regards
Panos

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 9. [ss] Re: Transponder

From: Anthony.N.Martin@marconiselenia.com
Date: Fri, 7 Mar 2003 18:37:50 +0000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-123771-2003.03.07-13.27.00--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> What problems would you face passing SS through a transponder? By this
> I mean a DSSS signal in, mixed with an IF frequency and then out as
> another frequency. Can this be done?

You mean mixed with an LO frequency.

No problem at all.

Inside most DSSS equipment the modulated
signal goes through at least one frequency
translation before transmission, and another
one on reception. I assure you no tricks
are required.

DSSS will go through satellite transponders,
TV-type transposers and transverters just
like any other modulation.

If there is any problem, it's the need for
wide bandwidth to pass the wanted signal.
That leaves a transponder open as a barn-door
to unwanted narrowband signals that could
saturate the system. For this to be an issue
the DSSS system would need serious amounts
of coding gain to be capable of rejecting
such interferers in the passband. In this
situation you could also end up with more
noise power being amplified by the transponder
than wanted signal; unlike a DSSS receiver
a basic transponder can't separate them.

To fix this situation a code-domain filtering
process would be needed; ie downconversion,
correlation, synchronisation & all that.

Ant M1FDE

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 10. [ss] Subject: RE: Throughput on IEEE 802.11b

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Sat, 8 Mar 2003 22:15:40 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-123818-2003.03.08-06.05.07--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

From: "John Champa" <k8ocl@hotmail.com>
>hroughput on 802.11b is directly related to SNR. If you have maximum
>ignal you can get 11 Mbps. As the signal drops off the speed will go
down
>to 5.5 Mbps. Finally, it will go down to 1 Mbps, etc.

Well, this is not entirely correct. In an 802.11 system running ath 11
mbps nominal, the only data that will be sent at this rate will be the
payloads of the packets. The preambles and the packet headers and
addressing information will all be sent at only 1 Mbps.

So even it is a theoretical install working things out is not
straightforward.

Darryl

---
Darryl Smith, VK2TDS POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 11. [ss] Re: Subject: RE: Throughput on IEEE 802.11b

From: Jeff King <jeff@aerodata.net>
Date: Sat, 8 Mar 2003 13:40:12 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-123869-2003.03.08-13.29.47--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Although what you stated was correct, "throughput'  typically refers to the
useful data rate a device can provide.... i.e. what the end user experinces.
The preambles and headers are invisible to the end user, where as the end
user is most interested in the payloads.


--
Jeff King, jeff@aerodata.net on 3/8/2003


On Sat, 8 Mar 2003 22:15:40 +1100, Darryl Smith wrote:
>From: "John Champa" <k8ocl@hotmail.com>
>>throughput on 802.11b is directly related to SNR.  If you have maximum
>>ignal you can get 11 Mbps.  As the signal drops off the speed will go
>down
>>to 5.5 Mbps.  Finally, it will go down to 1 Mbps, etc.
>
>Well, this is not entirely correct. In an 802.11 system running ath 11
>mbps nominal, the only data that will be sent at this rate will be the
>payloads of the packets. The preambles and the packet headers and
>addressing information will all be sent at only 1 Mbps.
>
>So even it is a theoretical install working things out is not
>straightforward.



---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 12. [ss] Re: ss digest: February 20, 2003

From: Jim Ussailis <ussailis@equinox.shaysnet.com>
Date: Sun, 9 Mar 2003 12:05:33 -0500 (EST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: ss digest recipients <ss@lists.tapr.org>
Message-ID: <LYR6751-123979-2003.03.09-11.50.09--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

It has been awhile since you sent this, but here are some answers.

CAVEAT>>> I am NOT a lawyer, just an engineer.


On Fri, 21 Feb 2003, TAPR Spread Spectrum Special Interest Group digest wrote:

> TAPR Spread Spectrum Special Interest Group Digest for Thursday, February 20, 2003.
>
> 1. FCC Part 15 questions...
>
> ----------------------------------------------------------------------
>
> Subject: FCC Part 15 questions...
> From: "Darryl Smith" <Darryl@radio-active.net.au>
> Date: Fri, 21 Feb 2003 08:33:41 +1100
> X-Message-Number: 1
>
> People
>
> I have some part 15 questions for a job I am doing... And since I am not
> from the USA I am not sure where to start...
>
> My client has a piece of equipment with a LINX 900 MHz rf transciever
> module in it. We want to use a different transciever.

I haven't had good luck with LYNX. There "problem" of the "Proximity
effect" is BS. The real problem is lack of a buffer stage for the
oscillator. Last time I looked, their transmitter is just one stage, the
oscillator. That is poor practice, esp with a SAW oscillator. Too much
loading on the circuit "pulls" it off frequency, and thence out of
oscillation.

A SAW oscillator is an LC oscillator that is frequency set by the SAW
device in the feedback loop. The LC oscillator must be within 5% of
frequency for the thing to work.

If you are in the need I have a circuit that works just fine.

>
> What do I have to do to get FCC approval on the modification
>
Absolutely. Global Engineering Ltd in E. Haddam CT offers the best price
I have seen. (No I don't get any $$ for this plug) TUV is the most expensive.

> Also, what do I need to do if I also want to change the antenna.
>
In the States, the rules have nothing to do with power output for non-ss
equip. They have to do with radiated field strength in the peak of the
antenna beam. So a "gain" antenna forces you to use less transmit power.

The power limit here is very close to an equivalent of running 3/4 mW
into a isotropic radiator. If
you run about one Mw into a quarterwave wire attached to your board, you
will be darn close to the maximum radiated field strength in the peak of
an omnidirectional beam. Probably two or three dB or so low, not about 6
dB high as you might expect. The difference is due to the poor ground
plane (the circuit board, etc.) under the antenna element.

Now, it is difficult to have only one Mw output with a two stage SAW
based transmitter (see above for the reason for two stages. Read it
again), so why do you want another antenna? Yes, it makes a lot of sense
everywhere but in the US and Canada.

Also, here your circuit must protect against someone changing the antenna. I
have read that the use of reverse SMA connectors is no longer accecptable
by our FCC. The low cost solution is to solder a wire into the circuit,
and adjust the transmit power accordingly.

To answer your question, every time you use another antenna, you have do
retest and refile.

You can download our rules from FCC.gov Go to the office of engineering
technology (OIT) & follow the links.

Jim Ussailis, W1EQO / VE1EQO

jim@nationalwireless.com

> And one last question.. What is the power limit on 900 MHz unlicensed...
> And this is not SS btw
>
> Many thanks
>
> Darryl
>
> ---------
> Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
> Mobile Number 0412 929 634 [+61 4 12 929 634 International]
> Darryl@radio-active.net.au | www.radio-active.net.au
>
>
>
>
>
> ---
>
> END OF DIGEST
>
> ---
> You are currently subscribed to ss as: ussailis@shaysnet.com

> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 13. [ss] Re: ss digest: March 04, 2003

From: Jim Ussailis <ussailis@equinox.shaysnet.com>
Date: Sun, 9 Mar 2003 12:11:00 -0500 (EST)
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Cc: ss digest recipients <ss@lists.tapr.org>
Message-ID: <LYR6751-123981-2003.03.09-11.55.36--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have seen this done with loads made from carbon deposited on Rexolite.
I had one made once in 3.16 inch diameter circular guide for 2.8 GHz.
There the fellow arranged several sheets in a symmetrical fashion on a
plug at the end of the waveguide.

Following that idea, I would put a carbon taper load in the back end of
your ridge guide. Fabricating the load to a very fine point is very
important for a good match.

Jim, W1EQO / VE1EQO

On Wed, 5 Mar 2003, TAPR Spread Spectrum Special Interest Group digest wrote:

> TAPR Spread Spectrum Special Interest Group Digest for Tuesday, March 04, 2003.
>
> 1. Broadband Transducers & Loads
>
> ----------------------------------------------------------------------
>
> Subject: Broadband Transducers & Loads
> From: "P.Gavalas" <ELA97PG@sheffield.ac.uk>
> Date: Tue, 4 Mar 2003 11:38:26 -0000
> X-Message-Number: 1
>
> I managed to model a broadband transducer at 900 MHz. A very
> cheap one to make as well. You need a WR975 and my exotic
> design.
>
> It is a scalable design as well. I guess I can a chieve something
> like 800MHz of bandwidth at around 2.4GHz..
>
> For a standard WG16 for example i managed to get 4GHz of
> bandwidth 8-12GHz and so on...
>
> Still there isn't a proper load for the WR 975. How can I make one?
>
> The Uni doesn't have one and they 'encourage' me to stop the
> tests... Pity...
>
> Whoever helps me will be agnoledged on my report. If anyone has
> got a way round to this please let me know ASAP.
>
> Regards,
> Panos
>
>
>
> ---
>
> END OF DIGEST
>
> ---
> You are currently subscribed to ss as: ussailis@shaysnet.com
> To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
>
>

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 14. The Safest Investment with Guaranteed returns. 9518

From: "Gov't Services" <J.Tianan@expando.se>
Date: Wed, 12 Mar 2003 21:58:04 -2000
To: <J.Tianan@expando.se>
Message-ID: <00000a162acb$00000430$000069da@mail.svip.net>
Rendered body type: text/html

Government Guarantees Security In Your Investment

Click Here For The Best Kept Secret In America <http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/3D"http://www.kokiya.com/mortgage/investment=>

The average return one makes is 15%-50% GUARANTEED by the Goverment, and this is on the low end. Our clients are making an incredible 30 to 50 times their money on the high end. The banks have been doing this for over 100 years. Our company has developed a program that allows you to capitalize on these proven techniques and strategies for the first time ever.

For free information on "INSIDER SECRETS TO INVESTING IN GOVERNMENT SECURED TAX CERTIFICATES."

CLICK HERE. <http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/3D"http://www.kokiya.com/mortgage/investme=>

Take Control of Your Financial Future!

## 15. [ss] It's Time To Be Heard!

From: "John Champa" <k8ocl@hotmail.com>
Date: Wed, 19 Mar 2003 13:30:18 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-125077-2003.03.19-13.19.57--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Greetings!

If you have not checked out the ARRL High Speed Multimedia (HSMM) website
recently, please do so now.  There is a survey form that we would like you
to complete.

www.arrl.org/hsmm

Please feel free to forward the message to all your friends, both amateurs
and non-amateurs, who might be interested in 802.11 technology.  We need all
the feedback we can get!

Vy 73,
John Champa - K8OCL
ARRL Chairman
HSMM Working Group

_____
Protect your PC - get McAfee.com VirusScan Online
http://clinic.mcafee.com/clinic/ibuy/campaign.asp?cid=3963

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 16. [ss] Call for Powerpoint Files

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Mon, 24 Mar 2003 08:39:56 +1100
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-125576-2003.03.23-16.33.29--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

People

I am looking for powerpoint files to create an improved indexing of
PowerPoint files on TAPR.ORG. I have found some presentations, but I
know that there are a LOT more out there. I would like to get as many
powerpoint files on TAPR.ORG as possible and indexed.

If you have any powerpoint files that you would like to contribute to
the TAPR.ORG archive, please send me an email at VK2TDS@TAPR.ORG and I
will let you know where you can send the file. The files that I need are
anything to do with amateur radio digital communications. This would
include

DCC Presentations (I have most of 2002 seperately)
APRS and GPS
Digital Voice
Emergency Digital Operations
Spread Spectrum and 802.11
etc

The only powerpoints I know of are listed below...

Thanks.... Darryl VK2TDS

ftp.tapr.org
./aprssig/dosstuff/APRSdos/pcsat-sum.ppt
./aprssig/dosstuff/APRSdos/science-jpg.ppt
./aprssig/dosstuff/APRSdos/science-serb.ppt
./aprssig/dosstuff/DOSmisc/RWFPPT.zip
./aprssig/presentations/96olympic.zip
./aprssig/presentations/APRSNE.ZIP
./aprssig/presentations/APRSPRES.exe
./aprssig/presentations/FireTrak.ZIP
./aprssig/presentations/HamfestHandout.doc
./aprssig/presentations/N4NEQPPT.ZIP
./aprssig/presentations/VK2TDS_Presentation.zip
./aprssig/presentations/aprs_intro.zip
./aprssig/presentations/aprsbrochure.zip
./aprssig/presentations/aprsdemo.ppt
./aprssig/presentations/aprstprs98.pdf
./aprssig/presentations/aprstprs98.zip
./aprssig/presentations/dcc2k_intro.ppt
./aprssig/presentations/dcc99.ppt
./aprssig/presentations/ham_com_2001.ppt
./aprssig/presentations/kd4rdb-aprs-messages.ppt
./aprssig/presentations/kd4rdb.pdf
./aprssig/presentations/kd4rdb.ppt
./aprssig/presentations/train.zip
./pub/tprs/hamcom97.ppt
./pub/tprs/hamcom98/aprs.hamcom98.ppt
./pub/tprs/hamcom98/wb5aoh.hamcom98.ppt
./pub/tprs/hamcom98/wd0etz.hamcom98.ppt
./ss/intro_ss.ppt

---

Darryl Smith, VK2TDS POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

---

You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 17. Investments Backed By The Government 4370

From: "Financial Service Group" <P.Suba@sejer.dk>
Date: Sun, 23 Mar 2003 23:47:27 -2000
To: <P.Suba@sejer.dk>
Message-ID: <000040476c56$00005b39$00007af7@mbox.edibrico.it>
Rendered body type: text/html

Government Guarantees Security In Your Investment

Click Here For The Best Kept Secret In America <http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/3D"http://www.kokiya.com/mortgage/investment=>

The average return one makes is 15%-50% GUARANTEED by the Goverment, and this is on the low end. Our clients are making an incredible 30 to 50 times their money on the high end. The banks have been doing this for over 100 years. Our company has developed a program that allows you to capitalize on these proven techniques and strategies for the first time ever.

For free information on "INSIDER SECRETS TO INVESTING IN GOVERNMENT SECURED TAX CERTIFICATES."

CLICK HERE. <http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/3D"http://www.kokiya.com/mortgage/investme=>

Take Control of Your Financial Future!

## 18. Your confirmation is needed (ok 6751)

From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Wed, 26 Mar 2003 14:47:28 -0500
To: lyris.ss@tapr.org
Message-ID: <LYR6751-125999-2003.03.26-14.47.28--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

```
Your email address 'lyris.ss@tapr.org' has been submitted to be
unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be
unsubscribed.

To confirm that you do want to unsubscribe, reply to this message so that
the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to
unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the
mailing list.

---

Return-Path: <contact_us_only_via_web_.www.wseas.org@wseas.org>
Received: from ux.snd.edu.gr ([194.219.139.5]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Wed, 26 Mar 2003 14:46:57 -0500
Received: from wseas.org (explore.wseas.org [194.219.139.7])
        by ux.snd.edu.gr (8.11.3/8.11.3/SuSE Linux 8.11.1-0.5) with SMTP id h2LHgLK29800;
        Fri, 21 Mar 2003 19:42:22 +0200
Message-Id: <200303211742.h2LHgLK29800@ux.snd.edu.gr>
From: "WSEAS NEWSLETTER" <contact_us_only_via_web_.www.wseas.org@wseas.org>
To: ss-request
Subject:
Sender: "WSEAS NEWSLETTER" <contact_us_only_via_web_.www.wseas.org@wseas.org>
Mime-Version: 1.0
Content-Type: text/html; charset="ISO-8859-1"
Date: Fri, 21 Mar 2003 18:41:20 +0200
X-Priority: 1 (Highest)
Content-Transfer-Encoding: 8bit

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <contact_us_only_via_web_.www.wseas.org@wseas.org>
Received: from ux.snd.edu.gr ([194.219.139.5]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Wed, 26 Mar 2003 14:46:57 -0500
Received: from wseas.org (explore.wseas.org [194.219.139.7])
        by ux.snd.edu.gr (8.11.3/8.11.3/SuSE Linux 8.11.1-0.5) with SMTP id h2LHgLK29800;
        Fri, 21 Mar 2003 19:42:22 +0200
Message-Id: <200303211742.h2LHgLK29800@ux.snd.edu.gr>
From: "WSEAS NEWSLETTER" <contact_us_only_via_web_.www.wseas.org@wseas.org>
To: <ellestda@uwplatt.edu>
Subject: A Message from N.E.Mastorakis
Sender: "WSEAS NEWSLETTER" <contact_us_only_via_web_.www.wseas.org@wseas.org>
Mime-Version: 1.0
Content-Type: text/html; charset="ISO-8859-1"
Date: Fri, 21 Mar 2003 18:41:20 +0200
X-Priority: 1 (Highest)
Content-Transfer-Encoding: 8bit

<html>
<BODY bgColor=#ffffff>
<body>
<font color="#000000"><big>

<p align="left"><font color="#000000" size="3"><b>A Message from
N.E.Mastorakis
<BR>
</b></font></p>
<table border="1" width="85%">
  <tr>
    <td width="100%" bgcolor="#f6FFF6"><font color="#000000" size="4">
```

```
Dear WSEAS Members and Friends,<BR>
<BR>
We are glad to announce you the organization of the following
conferences.<BR>
<font color="#cc0000">You are invited to submit a paper or to organize a
special session.<BR><font color="#000000">
I will <u>personally supervise</u> the 2003 WSEAS conferences (see the
list below)
<BR>
and <u>WSEAS Chairmen and Organizers can guarantee</u> their success.
<BR><BR>
<font color="#cc0000">Please note that:<font color="#000000"><BR>
1) The multiconference in Corfu island will take place in the marvellous
5-Star <BR>Corfu Holiday Palace
(former Hilton of Corfu). The manager of the hotel gave us<BR> extremely
low prices for your accomodation.
<BR>The multiconference (it is in its 7th year) will host approximately
500-600 papers.<BR><BR>
2) For the multiconference in Athens (Neural,Fuzzy, Evolut.Comp.),<BR>
<b>
all the accepted papers will be published in a Special Issue of WSEAS
Transactions<BR>
 that will be sent to the authors after the conference.</b>
<BR><BR>
3) Also the WSEAS web multiconference offers to you many advantages like
<BR>remote presentation, low cost, etc...
as well as the publication of your paper in the proceedings (and journals
after selection)<BR>
<BR>
<BR>
Best Regards<BR>
<BR>

Prof. Nikos E. Mastorakis,
President of WSEAS,<br>
WSEAS<BR>
Ag. Ioannou Theologou 17-23, <BR>
15773, Zographou, <BR>
Athens, GREECE.<BR>
Tel: (003) 0210 7473313 <BR>
FAX: (003) 0210 7473314 <BR>
<a href="http://www.wseas.org/wseas/contact_us.htm">Email</a><BR>
<BR><BR>
</big>
Visit: <a href="http://www.wseas.org">www.wseas.org</a></font>
<BR><B><BR>
<u>WSEAS CALENDAR of Events</u></B><BR>
<BR>
<B>Athens, Greece, May 9-11, 2003</b>

<ul><li>
<a href="http://www.wseas.org/wseas/conferences/2003/athina"
TARGET="_blank">
4th WSEAS Int.Conf. on <u>NEURAL NETWORKS AND APPLICATIONS</u> (NNA
'03)<BR></a>
</li></ul><ul><li><a
href="http:/www.wseas.org/wseas/conferences/2003/athina" TARGET="_blank">
4th WSEAS Int.Conf. on <u>FUZZY
SETS AND FUZZY SYSTEMS</u> (FSFS '03)<BR></a>
</li></ul><ul><li>
<a href="http://www.wseas.org/wseas/conferences/2003/athina"
TARGET="_blank">4th WSEAS
Int.Conf. on <u>EVOLUTIONARY
COMPUTATION</u> (EC '03)<BR></a></li></ul>
<BR>



<B>CSCC 2003 in Corfu Island, Greece, July 7-10, 2003</b>

<ul><li>


<a href="http://www.wseas.org/wseas/conferences/2003/corfu/icc"
TARGET="_blank">
7th WSEAS Int.Conf. on <u>CIRCUITS</u><BR></a></li></ul><ul><li>
```

```
<a href="http://www.wseas.org/wseas/conferences/2003/corfu/ics"
TARGET="_blank">
7th WSEAS Int.Conf. on <u>SYSTEMS</u><BR></a></li></ul><ul><li>

<a href="http://www.wseas.org/wseas/conferences/2003/corfu/iccom"
TARGET="_blank">
7th WSEAS Int.Conf. on <u>COMMUNICATIONS</u><BR></a></li></ul><ul><li>

<a href="http://www.wseas.org/wseas/conferences/2003/corfu/iccomp"
TARGET="_blank">
7th WSEAS Int.Conf. on <u>COMPUTERS</u></a><BR></li></ul>
<BR><BR>
<font color="#ff0000" face="Times New Roman, Verdana">
NEW WEB CONFERENCES:<BR></font><font color="#000000"
face="Times New Roman, Verdana">

</p>

<ul><li>
<a href="http://www.wseas.org/wseas/conferences/2003/web" TARGET="_blank">
4th WSEAS Int.Conf. on <u>ALGORITHMS, SCIENTIFIC COMPUTING, MODELLING AND
SIMULATION</u> (ASCOMS '03)</a>
</li></ul>
<ul><li>
<a href="http://www.wseas.org/wseas/conferences/2003/web" TARGET="_blank">
4th WSEAS Int.Conf. on <u>TELECOMMUNICATIONS AND INFORMATICS</u>
(TELE-INFO'03)</a>
</li></ul>
<ul><li>
<a href="http://www.wseas.org/wseas/conferences/2003/web" TARGET="_blank">
1st WSEAS Int.Conf. on <u>APPLICATIONS OF ELECTRICAL ENGINEERING</u> (AEE
'03)</a>
</li></ul>


<BR>
<BR>




</td>
    </tr>
    <tr>
      <td width="100%" bgcolor="#00FFFF"><font color="#000000" SIZE="2">

<p><font color="#000000" size="3">To unsubscribe, send an email to
remove_for_ever@wseas.org with subject REMOVE or UNSUBSCRIBE. <br>
If you use different email account, include the email account(s) that you
want
to unsubscribe in the Body of your message.</font></p>

    </tr>
  </table>
</font>

</body>

</html>
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## 19. Your confirmation is needed (ok 6751)

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From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Sun, 30 Mar 2003 03:32:42 -0500
To: lyris.ss@tapr.org
Message-ID: <LYR6751-126776-2003.03.30-03.32.42--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Your email address 'lyris.ss@tapr.org' has been submitted to be
unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be
unsubscribed.

To confirm that you do want to unsubscribe, reply to this message so that
the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to
unsubscribe-confirm@lists.tapr.org
```

```
You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the
mailing list.

---

Return-Path: <contact_us_only_via_web_.www.wseas.org@mail1.wseas.org>
Received: from ux.snd.edu.gr ([194.219.139.5]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Sun, 30 Mar 2003 03:31:11 -0500
Received: from mail1.wseas.org (mail1.wseas.org [194.219.139.8])
        by ux.snd.edu.gr (8.11.3/8.11.3/SuSE Linux 8.11.1-0.5) with ESMTP id h2SG0ZH29390
        for <w2a1@ux.snd.edu.gr>; Fri, 28 Mar 2003 18:00:35 +0200
Received: from explore (explore.wseas.org [194.219.139.7])
        by mail1.wseas.org (8.11.3/8.11.3/SuSE Linux 8.11.1-0.5) with SMTP id h2SEdAx12797
        for <w2a1@ux.snd.edu.gr>; Fri, 28 Mar 2003 16:39:10 +0200
Message-ID: <001901c2f53a$93ebaf00$078bdbc2@wseas.org>
From: "WSEAS NEWSLETTER" <contact_us_only_via_web_.www.wseas.org@mail1.wseas.org>
To: ss-request
Subject:
Date: Fri, 28 Mar 2003 16:58:47 +0200
MIME-Version: 1.0
Content-Type: multipart/alternative;
        boundary="----=_NextPart_000_0014_01C2F54B.4C943990"
X-Priority: 3
X-MSMail-Priority: Normal
X-Mailer: Microsoft Outlook Express 5.00.2314.1300
X-MimeOLE: Produced By Microsoft MimeOLE V5.00.2314.1300

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <contact_us_only_via_web_.www.wseas.org@mail1.wseas.org>
Received: from ux.snd.edu.gr ([194.219.139.5]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Sun, 30 Mar 2003 03:31:11 -0500
Received: from mail1.wseas.org (mail1.wseas.org [194.219.139.8])
        by ux.snd.edu.gr (8.11.3/8.11.3/SuSE Linux 8.11.1-0.5) with ESMTP id h2SG0ZH29390
        for <w2a1@ux.snd.edu.gr>; Fri, 28 Mar 2003 18:00:35 +0200
Received: from explore (explore.wseas.org [194.219.139.7])
        by mail1.wseas.org (8.11.3/8.11.3/SuSE Linux 8.11.1-0.5) with SMTP id h2SEdAx12797
        for <w2a1@ux.snd.edu.gr>; Fri, 28 Mar 2003 16:39:10 +0200
Message-ID: <001901c2f53a$93ebaf00$078bdbc2@wseas.org>
From: "WSEAS NEWSLETTER" <contact_us_only_via_web_.www.wseas.org@mail1.wseas.org>
To: <Undisclosed-Recipient:;>
Subject: A Message from N.E.Mastorakis
Date: Fri, 28 Mar 2003 16:58:47 +0200
MIME-Version: 1.0
Content-Type: multipart/alternative;
        boundary="----=_NextPart_000_0014_01C2F54B.4C943990"
X-Priority: 3
X-MSMail-Priority: Normal
X-Mailer: Microsoft Outlook Express 5.00.2314.1300
X-MimeOLE: Produced By Microsoft MimeOLE V5.00.2314.1300

This is a multi-part message in MIME format.

------=_NextPart_000_0014_01C2F54B.4C943990
Content-Type: text/plain;
        charset="Windows-1252"
Content-Transfer-Encoding: quoted-printable

A Message from N.E.Mastorakis=20

      Dear WSEAS Members and Friends,

      We are glad to announce you the organization of the following =
conferences.
      You are invited to submit a paper or to organize a special =
session.
      I will personally supervise the 2003 WSEAS conferences (see the =
list below)=20
      and WSEAS Chairmen and Organizers can guarantee their success.=20

      Please note that:
```

1) The multiconference in Corfu island will take place in the =
marvellous 5-Star=20
Corfu Holiday Palace (former Hilton of Corfu). The manager of the =
hotel gave us extremely low prices for your accomodation. The =
multiconference (it is in its 7th year) will host approximately 500-600 =
papers.

2) For the multiconference in Athens (Neural,Fuzzy, Evolut.Comp.),
all the accepted papers will be published in a Special Issue of =
WSEAS Transactions that will be sent to the authors after the =
conference.=20

3) Also the WSEAS web multiconference offers to you many =
advantages like=20
remote presentation, low cost, etc... as well as the publication =
of your paper in the proceedings (and journals after selection)

Best Regards

Prof. Nikos E. Mastorakis, President of WSEAS,
WSEAS
Ag. Ioannou Theologou 17-23,=20
15773, Zographou,=20
Athens, GREECE.
Tel: (003) 0210 7473313=20
FAX: (003) 0210 7473314=20
Email

Visit: www.wseas.org=20

WSEAS CALENDAR of Events

NNA'03, FSFS'03, EC'03, Athens, Greece, May 9-11, 2003=20

4th WSEAS Int.Conf. on NEURAL NETWORKS AND APPLICATIONS (NNA '03)

4th WSEAS Int.Conf. on FUZZY SETS AND FUZZY SYSTEMS (FSFS '03)

4th WSEAS Int.Conf. on EVOLUTIONARY COMPUTATION (EC '03)

CSCC 2003 in Corfu Island, Greece, July 7-10, 2003=20

7th WSEAS Int.Conf. on CIRCUITS

7th WSEAS Int.Conf. on SYSTEMS

7th WSEAS Int.Conf. on COMMUNICATIONS

7th WSEAS Int.Conf. on COMPUTERS

NEW WEB CONFERENCES:

4th WSEAS Int.Conf. on ALGORITHMS, SCIENTIFIC COMPUTING, MODELLING =
AND SIMULATION (ASCOMS '03)=20

4th WSEAS Int.Conf. on TELECOMMUNICATIONS AND INFORMATICS =
(TELE-INFO'03)=20

1st WSEAS Int.Conf. on APPLICATIONS OF ELECTRICAL ENGINEERING (AEE =
'03)=20

4th WSEAS Multiconference in Applied Mathematics, Malta, September =
1-3, 2003=20

The WSEAS Multiconference in LINEAR ALGEBRA, NUMERICAL ANALYSIS, =
DIFFERENTIAL EQUATIONS, OPTIMIZATION, PROBABILITY and STATISTICS, =
OPERATIONAL RESEARCH, COMPUTERS, EDUCATION, ALGORITHMS, DISCRETE =
MATHEMATICS and CONTROL will take place in Malta in September.=20

The multiconference is the 4th in the successfull history of the =
conference that was held in Athens, Greece (2000), Cairns, Australia =
(2001), Miedyzydroje, Poland (2002).=20

```
      As in 2002 in the conf. in Poland, all the accepted papers will be =
published in WSEAS TRANSACTIONS ON MATHEMATICS.=20


      Other new conferences can be found at: www.wseas.org



    =20
      To unsubscribe, send an email to remove_for_ever@wseas.org with =
subject REMOVE or UNSUBSCRIBE.=20
      If you use different email account, include the email account(s) =
that you want to unsubscribe in the Body of your message.

    =20




------=_NextPart_000_0014_01C2F54B.4C943990
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        charset="Windows-1252"
Content-Transfer-Encoding: quoted-printable

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</HEAD>
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  <TBODY>
  <TR>
    <TD bgColor=3D#daffff vAlign=3Dtop><FONT size=3D4>
      <P align=3Dleft>Dear WSEAS Members and Friends,<BR><BR>We are glad =
to=20
      announce you the organization of the following=20
      conferences.<BR></FONT><FONT color=3D#cc0000 size=3D4>You are =
invited to=20
      submit a paper or to organize a special session.<BR></FONT><FONT =
size=3D4>I=20
      will <U>personally supervise</U> the 2003 WSEAS conferences (see =
the list=20
      below) <BR>and <U>WSEAS Chairmen and Organizers can guarantee</U> =
their=20
      success. <BR><BR></FONT><FONT color=3D#cc0000 size=3D4>Please note =

      that:</FONT><FONT size=3D4><BR>1) The multiconference in Corfu =
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      take place in the marvellous 5-Star <BR>Corfu Holiday Palace =
(former=20
      Hilton of Corfu). The manager of the hotel gave us extremely low =
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will=20
      host approximately 500-600 papers.<BR><BR>2) For the =
multiconference in=20
      Athens (Neural,Fuzzy, Evolut.Comp.),<BR><B>all the accepted papers =
will be=20
      published in a Special Issue of WSEAS Transactions that will be =
sent to=20
      the authors after the conference.</B> <BR><BR>3) Also the WSEAS =
web=20
      multiconference offers to you many advantages like <BR>remote=20
      presentation, low cost, etc... as well as the publication of your =
paper in=20
      the proceedings (and journals after selection)<BR><BR><BR>Best=20
      Regards<BR><BR>Prof. Nikos E. Mastorakis, President of=20
      WSEAS,<BR>WSEAS<BR>Ag. Ioannou Theologou 17-23, <BR>15773, =
Zographou,=20
      <BR>Athens, GREECE.<BR>Tel: (003) 0210 7473313 <BR>FAX: (003) 0210 =
7473314=20
      <BR></FONT><A =
href=3D"http://www.wseas.org/wseas/contact_us.htm"><U><FONT=20
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      size=3D4>www.wseas.org</U></FONT></A><FONT color=3D#cc0000 =
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Events</B></U><BR><BR></FONT><B><FONT=20
      size=3D4>NNA'03, FSFS'03, EC'03, Athens, Greece, May 9-11, =
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      (EC '03)</FONT></A></P></DIR></DIR><FONT size=3D4>
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7-10,=20
      2003</B> </P>
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ELECTRICAL=20
      ENGINEERING</U> (AEE '03)</FONT></A><FONT size=3D4> =
</P></DIR></DIR>
      <P align=3Dleft><BR><BR><B>4th WSEAS Multiconference in Applied =
Mathematics,=20
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```
      Malta, September 1-3, 2003</B> </P>
      <P align=3Dleft>The WSEAS Multiconference in LINEAR ALGEBRA, =
NUMERICAL=20
      ANALYSIS, DIFFERENTIAL EQUATIONS, OPTIMIZATION, PROBABILITY and=20
      STATISTICS, OPERATIONAL RESEARCH, COMPUTERS, EDUCATION, =
ALGORITHMS,=20
      DISCRETE MATHEMATICS and CONTROL will take place in Malta in =
September.=20
      <BR></FONT><FONT size=3D3><BR></FONT><FONT size=3D4>The =
multiconference is the=20
      4th in the successfull history of the conference that was held in =
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      Greece (2000), Cairns, Australia (2001), Miedyzydroje, Poland =
(2002).=20
      </FONT><FONT size=3D3><BR></FONT><FONT size=3D4>As in 2002 in the =
conf. in=20
      Poland, <B><U>all</U> </B>the accepted papers will be published in =
WSEAS=20
      TRANSACTIONS ON MATHEMATICS. </FONT><FONT size=3D3><BR></FONT></P>
      <P align=3Dleft><FONT size=3D4><FONT face=3DArial><FONT=20
      color=3D#ff0000><STRONG>Other new conferences can be found at: <A=20
      =
href=3D"http://www.wseas.org">www.wseas.org</A></STRONG><BR><BR></FONT></=
FONT></FONT><FONT=20
      size=3D3></P>
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      <P align=3Dleft></P></DIR></DIR></FONT></TD></TR>
  <TR>
    <TD bgColor=3D#00ffff vAlign=3Dtop><FONT size=3D3>
      <P align=3Dleft>To unsubscribe, send an email to =
remove_for_ever@wseas.org=20
      with subject REMOVE or UNSUBSCRIBE. <BR>If you use different email =

      account, include the email account(s) that you want to unsubscribe =
in the=20
      Body of your message.</P></FONT><FONT size=3D2>
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# April 2003

Original source file: ss.0304
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/ss.0304

## 1. [ss] publish or perish

From: Stan Horzepa <stanzepa@earthlink.net>
Date: Tue, 01 Apr 2003 19:38:06 -0500
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-127138-2003.04.01-19.36.36--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Here is your chance to become rich and famous! Well, maybe not rich, but
certainly famous.

The editorial board of Packet Status Register (PSR, TAPR□s quarterly
newsletter) is now soliciting articles, news items, etc. for the next issue
of the newsletter. Topics related to digital Amateur Radio will be given
preference and the editorial board reserves the right to determine what is
suitable for publication.

E-mail your contributions to wa1lou@tapr.org ASAP because the deadline for
the next issue of the newsletter is April 24.

Don't forget, if you are a TAPR member, you will add three months to your
TAPR membership for every article that is published in PSR.

73,

Stan Horzepa, WA1LOU, PSR Editor

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 2. [ss] Digital BASH at Hamvention

From: John Ackermann  N8UR <jra@febo.com>
Date: Fri, 11 Apr 2003 16:40:06 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-128257-2003.04.11-16.42.46--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Announcing the 2003 TAPR Digital BASH!

----
What?
        An event for the digitally-inclined ham, featuring:
        *  Buffet dinner
        *  Keynote Address: A Software Defined Radio for the Masses,
            by Gerald Youngblood, AC5OG
        *  TAPR special interest group meetings
        *  "Birds of a Feather" gatherings

When?
        Friday evening, May 16, 2003
        Doors open at 7:00 pm; dinner served at 7:30 pm
        Speaker and meetings after dinner

Where?
        Kohler's Banquet Center, 4548 Presidential Way, Kettering
        (39 40.75N, 84 08.43W), just south of East David Road between Far
        Hills Ave. and Wilmingon Pike.  Maps available on the TAPR web site
        (http://www.tapr.org/tapr/dayton, follow the link at the bottom of the
page),
        or at the TAPR booth.

How?
        Dinner requires advance registration and payment through TAPR.
        Tickets will be available at the TAPR booth on Friday, though
        we strongly encourage registration <before> Hamvention.  The
        cost is $25.00 per person, tax and tip included.

        All amateurs are welcome to attend, enjoy the speaker, and
        participate in the meetings, although only those purchasing a
        dinner can eat.

```
To register, contact:
        Digital BASH
        c/o TAPR
        8987-309 E. Tanque Verde Road #337
        Tucson, AZ   85749-9399
        Phone: 972-671-TAPR (8277)
        Fax: 972-671-8716
        Internet: tapr@tapr.org

        Visa/Mastercard Accepted

Who?
        PACK*BASH is co-sponsored by TAPR -- Tucson Amateur Packet
        Radio, the national leader in digital communication -- and the
        Miami Valley FM Association, Dayton's packet radio club.

For more information (including maps), go to
http://www.tapr.org/tapr/dayton,
 or send email to tapr@tapr.org.


---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org
```

## 3. Your confirmation is needed (ok 6751)

```
From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Tue, 15 Apr 2003 10:13:47 -0500
To: lyris.ss@tapr.org
Message-ID: <LYR6751-128718-2003.04.15-10.13.47--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Your email address 'lyris.ss@tapr.org' has been submitted to be
unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be
unsubscribed.

To confirm that you do want to unsubscribe, reply to this message so that
the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to
unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the
mailing list.

---

Return-Path: <contact_us_only_via_web_.www.wseas.org@wseas.org>
Received: from ux.snd.edu.gr ([194.219.139.5]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Tue, 15 Apr 2003 10:13:35 -0500
Received: from explore (explore.wseas.org [194.219.139.7])
        by ux.snd.edu.gr (8.11.3/8.11.3/SuSE Linux 8.11.1-0.5) with SMTP id h3BAXaL03342
        for <invitedabstr@ux.snd.edu.gr>; Fri, 11 Apr 2003 13:33:36 +0300
Message-ID: <001f01c30017$397eb980$078bdbc2@wseas.org>
From: "WSEAS NEWSLETTER" <contact_us_only_via_web_.www.wseas.org@wseas.org>
To: ss-request
Subject:
Date: Fri, 11 Apr 2003 13:43:10 +0300
MIME-Version: 1.0
Content-Type: multipart/alternative;
        boundary="----=_NextPart_000_001A_01C30030.4A7EF3D0"
X-Priority: 3
X-MSMail-Priority: Normal
X-Mailer: Microsoft Outlook Express 5.00.2314.1300
X-MimeOLE: Produced By Microsoft MimeOLE V5.00.2314.1300

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <contact_us_only_via_web_.www.wseas.org@wseas.org>
```

```
Received: from ux.snd.edu.gr ([194.219.139.5]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Tue, 15 Apr 2003 10:13:35 -0500
Received: from explore (explore.wseas.org [194.219.139.7])
        by ux.snd.edu.gr (8.11.3/8.11.3/SuSE Linux 8.11.1-0.5) with SMTP id h3BAXaL03342
        for <invitedabstr@ux.snd.edu.gr>; Fri, 11 Apr 2003 13:33:36 +0300
Message-ID: <001f01c30017$397eb980$078bdbc2@wseas.org>
From: "WSEAS NEWSLETTER" <contact_us_only_via_web_.www.wseas.org@wseas.org>
To: <Undisclosed-Recipient:;>
Subject: WSEAS 4th NNA-4th FSFS-4th EC ***** All the accepted papers will be published in a Special
Issue of WSEAS TRANSACTIONS ON SYSTEMS
Date: Fri, 11 Apr 2003 13:43:10 +0300
MIME-Version: 1.0
Content-Type: multipart/alternative;
        boundary="----=_NextPart_000_001A_01C30030.4A7EF3D0"
X-Priority: 3
X-MSMail-Priority: Normal
X-Mailer: Microsoft Outlook Express 5.00.2314.1300
X-MimeOLE: Produced By Microsoft MimeOLE V5.00.2314.1300

This is a multi-part message in MIME format.

------=_NextPart_000_001A_01C30030.4A7EF3D0
Content-Type: text/plain;
        charset="Windows-1252"
Content-Transfer-Encoding: quoted-printable

      Send now your Abstract (by email to us as .txt file)=20


      Dear Members of our List,

      Please, send me now the Abstract (until April 30) for the =
Multiconference on NEURAL NETWORKS, FUZZY SYSTEMS, EVOLUTIONARY =
COMPUTATION (that will take place in Vouliagmeni, suburb of Athens, =
Greece, 29-31 May 2003) =
http://www.wseas.org/wseas/conferences/2003/athina/index.html=20

      Use the email address that you will find on: =
http://www.wseas.org/wseas/contact_us.htm
      The multiconference will take place in the luxurious 5-Star Sea =
Resort: ASTIR PALACE=20
      www.astir.gr

      After the conference, all the accepted papers will be published in =
a Special Issue of WSEAS
      TRANSACTIONS ON SYSTEMS that will be sent to you.

      P.S. All authors of the conference will also receive a =
complimentary Book from WSEAS Press.

      *****Please, do not reply to this email address, but to the =
address of: http://www.wseas.org/wseas/contact_us.htm The subject of =
your message must: WSEAS invited paper=20
      Best Regards (See also the extended deadline for WSEAS =
multiconference in CORFU ISLAND)=20


      Prof. Nikos E. Mastorakis,
      President of WSEAS,
      WSEAS
      Ag. Ioannou Theologou 17-23,=20
      15773, Zographou,=20
      Athens, GREECE.
      Tel: (003) 0210 7473313=20
      FAX: (003) 0210 7473314=20
      Email


      Visit: www.wseas.org=20


    =20


------=_NextPart_000_001A_01C30030.4A7EF3D0
Content-Type: text/html;
        charset="Windows-1252"
Content-Transfer-Encoding: quoted-printable
```

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http-equiv=3DContent-Type>
<META content=3D"MSHTML 5.00.2314.1000" name=3DGENERATOR>
<STYLE></STYLE>
</HEAD>
<BODY bgColor=3D#ffffff>
<DIV>
<TABLE border=3D0 height=3D440 width=3D626>
  <TBODY>
  <TR>
    <TD bgColor=3D#ffffff height=3D163 width=3D"100%">
      <CENTER><B><U><A =
href=3D"http://www.wseas.org/wseas/contact_us.htm">Send now=20
      your Abstract (by email to us as .txt file)=20
      </A><BR></U></B></CENTER><BR>Dear Members of our =
List,<BR><BR>Please,=20
      <B>send me now the Abstract (until April 30)</B> for the =
Multiconference=20
      on NEURAL NETWORKS, FUZZY SYSTEMS, EVOLUTIONARY COMPUTATION (that =
will=20
      take place in Vouliagmeni, suburb of Athens, Greece, 29-31 May =
2003) <A=20
      =
href=3D"http://www.wseas.org/wseas/conferences/2003/athina/index.html">ht=
tp://www.wseas.org/wseas/conferences/2003/athina/index.html</A>=20
      <BR><BR>Use the email address that you will find on:<A=20
      href=3D"http://www.wseas.org/wseas/contact_us.htm">=20
      http://www.wseas.org/wseas/contact_us.htm</A><BR>The =
multiconference will=20
      take place in the luxurious 5-Star Sea Resort: ASTIR PALACE=20
      <CENTER>www.astir.gr</CENTER><BR><B>After the conference, all the =
accepted=20
      papers will be published in a Special Issue of =
WSEAS<BR>TRANSACTIONS ON=20
      SYSTEMS that will be sent to you.</B><BR><BR><FONT =
color=3D#ff0000>P.S. All=20
      authors of the conference will also receive a complimentary Book =
from=20
      WSEAS Press.<FONT color=3D#000000><BR><BR>*****Please, do not =
reply to this=20
      email address, but to the address of: <A=20
      =
href=3D"http://www.wseas.org/wseas/contact_us.htm">http://www.wseas.org/w=
seas/contact_us.htm</A>=20
      The subject of your message must: WSEAS invited paper <BR>Best =
Regards=20
      <FONT color=3D#008000><STRONG>(See also the extended deadline for =
WSEAS=20
      multiconference in CORFU ISLAND) <BR><BR><BR></STRONG></FONT>Prof. =
Nikos=20
      E. Mastorakis,<BR>President of WSEAS,<BR>WSEAS<BR>Ag. Ioannou =
Theologou=20
      17-23, <BR>15773, Zographou, <BR>Athens, GREECE.<BR>Tel: (003) =
0210=20
      7473313 <BR>FAX: (003) 0210 7473314 <BR><A=20
      =
href=3D"http://www.wseas.org/wseas/contact_us.htm">Email</A><BR><BR><BR><=
/BIG>Visit:=20
      <A href="http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/3D&amp;quot;ht
tp://www.wseas.org&amp;quot;">www.wseas.org</A></FONT>=20
      <BR><B><BR></FONT></A></B></FONT>
      <P =
align=3Dcenter></FONT></P></TD></TR></TBODY></TABLE></DIV></BODY></HTML>

------=_NextPart_000_001A_01C30030.4A7EF3D0--
```

## 4. [ss] Network Mapping through Link Margin determinations

From: "Darryl Smith" <Darryl@radio-active.net.au>
Date: Wed, 16 Apr 2003 16:39:44 +1000
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-128796-2003.04.16-02.32.35--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

People

I am writing a paper on 802.11 power control... At least it is hoped
that it is a paper, but it looks like it is starting to become a PhD

thesis... And I am saying that power control in an 802.11 network is not only good, but essential. Anyway I want to include some information about routing through an ad-hoc network where the routing is done to minimise the power spectral density.... I know that is not the normal way to do things, but that is my idea.

Then I got to thinking that the way to be able to do that is to determine the physical topology of the network. With more thought I have come to realise that the way to do this would be through some type of least-squares iteration, using data from the stations, working out how much power they need to transmit for a given receieved S/N raitio. The way I see it a reasonable model can be ontained of the network from this type of data.

My question... Has anyone done anything like this, or can anyone point me towards some reading matter on the subject.

Many thanks

Darryl

P.S. The working version of the paper can be found on http://www.radio-active.net.au/web/80211/powercontrol.pdf

---
Darryl Smith, VK2TDS  POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]
Darryl@radio-active.net.au | www.radio-active.net.au

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 5. Your confirmation is needed (ok 6751)

From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Sat, 19 Apr 2003 10:06:59 -0500
To: lyris.ss@tapr.org
Message-ID: <LYR6751-129127-2003.04.19-10.06.59--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Your email address 'lyris.ss@tapr.org' has been submitted to be unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be unsubscribed.

To confirm that you do want to unsubscribe, reply to this message so that the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the mailing list.

---

Return-Path: <wseas.newletter@www.wseas.org>
Received: from ux.snd.edu.gr ([194.219.139.5]) by lists.tapr.org with SMTP (Lyris Server version 3.0); Sat, 19 Apr 2003 10:06:51 -0500
Received: from www.wseas.org (explore.wseas.org [194.219.139.7])
        by ux.snd.edu.gr (8.11.3/8.11.3/SuSE Linux 8.11.1-0.5) with SMTP id h3JECOL27196
        for <leave-ss-6751t@lists.tapr.org>; Sat, 19 Apr 2003 17:12:24 +0300
Message-Id: <200304191412.h3JECOL27196@ux.snd.edu.gr>
From: "WSEAS NEWSLETTER (Please, do not reply to this address, but to the one that you can find at www.wseas.org     )" <wseas.newletter@www.wseas.org>
To: ss-request
Subject:
Sender: "WSEAS NEWSLETTER (Please, do not reply to this address, but to the one that you can find at www.wseas.org     )" <wseas.newletter@www.wseas.org>
Mime-Version: 1.0
Content-Type: text/plain; charset="ISO-8859-1"
Date: Sat, 19 Apr 2003 17:22:00 +0300
X-Priority: 1 (Highest)

```
Content-Transfer-Encoding: 8bit

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <wseas.newletter@www.wseas.org>
Received: from ux.snd.edu.gr ([194.219.139.5]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Sat, 19 Apr 2003 10:06:51 -0500
Received: from www.wseas.org (explore.wseas.org [194.219.139.7])
        by ux.snd.edu.gr (8.11.3/8.11.3/SuSE Linux 8.11.1-0.5) with SMTP id h3JECOL27196
        for <leave-ss-6751t@lists.tapr.org>; Sat, 19 Apr 2003 17:12:24 +0300
Message-Id: <200304191412.h3JECOL27196@ux.snd.edu.gr>
From: "WSEAS NEWSLETTER (Please, do not reply to this address, but to the one that you can find at
www.wseas.org     )" <wseas.newletter@www.wseas.org>
To: <leave-ss-6751t@lists.tapr.org>
Subject: invitation from WSEAS               Wishes for a HAPPY EASTER
Sender: "WSEAS NEWSLETTER (Please, do not reply to this address, but to the one that you can find at
www.wseas.org     )" <wseas.newletter@www.wseas.org>
Mime-Version: 1.0
Content-Type: text/plain; charset="ISO-8859-1"
Date: Sat, 19 Apr 2003 17:22:00 +0300
X-Priority: 1 (Highest)
Content-Transfer-Encoding: 8bit

<html>
<!BODY background="p3.bmp">
<body bgcolor="#ffffdf">

<table border="0" width="650" bgcolor="#ffffa0">
<tr><td>
April 18, 2003  <br> Greetings for a Happy Easter
<BR><BR>
<center>

<big> A LETTER TO YOU FROM WSEAS    <BR><BR> ( I N V I T A T I O N ) </big>
<br><BR>

<table border="0" width="600" bgcolor="#ffffff">
<tr><td>
<font face="Arial,Times New Roman" size="2">


<font color="#ff0000"><b>PUBLISH EXTRA PAPERS and EXTRA PAGES
<big>FREE</big></b><HR>
<font color="#000000">
For WSEAS CSCC Multiconference in Corfu Island,
there is not any registration fee for extra pages and extra papers.
So, we cordially encourage you to send more than one papers in this
multiconference!
<BR>
Deadline: May 10 <a
href="http://www.wseas.org/wseas/conferences/2003/corfu/index.html"
target="_blank">
http://www.wseas.org/wseas/conferences/2003/corfu/index.html</a>
</b><font color="#000000">
</td></tr></table>

<BR>
<BR>

<table border="0" width="600" bgcolor="#ffffff">
<tr><td>
<font face="Arial,Times New Roman" size="2">


<font color="#ff0000"><b><big>ALL</big> the papers of NNA'03-FSFS'03-EC'03
(Athens, Greece)
WILL BE PUBLISHED IN WSEAS TRANSACTIONS</b><HR>
<font color="#000000">
Deadline: May 10 <a
href="http://www.wseas.org/wseas/conferences/2003/athina/index.html"
target="_blank">http://www.wseas.org/wseas/conferences/2003/athina/index.htm
l</a>
<BR><big>Extra Pages free for all.
<BR>
</big>
```

After the conference, all the accepted papers will be published in a
Special Issue of WSEAS
TRANSACTIONS ON SYSTEMS that will be sent to you.
<BR><BR>
ALSO: All authors of the conference will also receive a complimentary Book
from WSEAS Press.

<font color="#000000">
</td></tr></table>

<BR>
<BR>

<table border="0" width="600" bgcolor="#ffffff">
<tr><td>
<font face="Arial,Times New Roman" size="2">


<font color="#0000ff">WSEAS Multiconferences in Mathematics (Sept.2003,
Malta)
and Multiconference in Biology, Economy, Music-Acoustic, Automation and
Informatics (Dec.2003, Tenerife, Canary Islands, Spain)
<HR>
<font color="#000000">
Invitation for papers and special session.
<a href="http://www.wseas.org" target="_blank">
http://www.wseas.org</a>
<font color="#000000">
</td></tr></table>

<BR>
<BR>



<table border="0" width="600" bgcolor="#ffffff">
<tr><td>
<font face="Arial,Times New Roman" size="2">


<font color="#000000">
<font color="#ff0000">DOWNLOAD FREE BOOKS AND CDs<HR>
<font color="#000000">

Authors
that will submit a paper in some WSEAS congress
<a href="http://www.wseas.org/wseas/announcement.htm"
target="_blank">http://www.wseas.org/wseas/announcement.htm</a>
 from April 1 until May 10, 2003 
will be able to download FREE
as ZIP files all
<BR>
<a href="http://www.wseas.org/wseas/History.htm" target="_blank">the
Proceedings</a>
<BR>and
<BR>
<a href="http://www.wseas.org/wseas/New_Books.htm" target="_blank">the
Books</a>
of WSEAS edited in 1999.

<BR>
Authors will receive by Email a password.
<BR>This password will also be sent to WSEAS Members.
<BR><BR>
</a>


</td></tr></table>
<BR><BR>

To unsubscribe, send an email to remove_for_ever@wseas.org with subject
REMOVE or UNSUBSCRIBE.
If you use different email account, include the email account(s) that you
want to unsubscribe in the Body of your message.

```
</td></tr></table>

</body>
</html>
```

## 6. [ss] Packet Status Register deadline nears

```
From: Stan Horzepa <stanzepa@earthlink.net>
Date: Mon, 21 Apr 2003 19:38:40 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-129456-2003.04.21-19.48.27--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain
```

The deadline for the next issue of Packet Status Register (PSR), TAPR's quarterly newsletter, is Thursday, April 24, so please get your submissions to me as quick as a bunny!

73,

Stan, WA1LOU

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 7. Your confirmation is needed (ok 6751)

```
From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Thu, 24 Apr 2003 14:18:32 -0500
To: lyris.ss@tapr.org
Message-ID: <LYR6751-129956-2003.04.24-14.18.32--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain
```

Your email address 'lyris.ss@tapr.org' has been submitted to be unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be unsubscribed.

To confirm that you do want to unsubscribe, reply to this message so that the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the mailing list.

---

```
Return-Path: <contact_us_only_via_web_.www.wseas.org@wseas.org>
Received: from ux.snd.edu.gr ([194.219.139.5]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Thu, 24 Apr 2003 14:17:50 -0500
Received: from explore (explore.wseas.org [194.219.139.7])
        by ux.snd.edu.gr (8.11.3/8.11.3/SuSE Linux 8.11.1-0.5) with SMTP id h3KAt2L22948
        for <pericles_stavrou@ux.snd.edu.gr>; Sun, 20 Apr 2003 13:55:02 +0300
Message-ID: <000f01c3072c$a3084710$078bdbc2@wseas.org>
From: "WSEAS NEWSLETTER" <contact_us_only_via_web_.www.wseas.org@wseas.org>
To: ss-request
Subject:
Date: Sun, 20 Apr 2003 14:04:23 +0300
MIME-Version: 1.0
Content-Type: multipart/alternative;
        boundary="----=_NextPart_000_000C_01C30745.BEEEBA40"
X-Priority: 3
X-MSMail-Priority: Normal
X-Mailer: Microsoft Outlook Express 5.00.2314.1300
X-MimeOLE: Produced By Microsoft MimeOLE V5.00.2314.1300

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:
```

```
Return-Path: <contact_us_only_via_web_.www.wseas.org@wseas.org>
Received: from ux.snd.edu.gr ([194.219.139.5]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Thu, 24 Apr 2003 14:17:50 -0500
Received: from explore (explore.wseas.org [194.219.139.7])
        by ux.snd.edu.gr (8.11.3/8.11.3/SuSE Linux 8.11.1-0.5) with SMTP id h3KAt2L22948
        for <pericles_stavrou@ux.snd.edu.gr>; Sun, 20 Apr 2003 13:55:02 +0300
Message-ID: <000f01c3072c$a3084710$078bdbc2@wseas.org>
From: "WSEAS NEWSLETTER" <contact_us_only_via_web_.www.wseas.org@wseas.org>
To: <Undisclosed-Recipient:;>
Subject: A LETTER FROM WSEAS           ( I N V I T A T I O N )      download books and CDs from our site
 FREE (see below)                      make links in your web sites to WSEAS Conferences: www.wseas.org
                                      please, forward this lett
Date: Sun, 20 Apr 2003 14:04:23 +0300
MIME-Version: 1.0
Content-Type: multipart/alternative;
        boundary="----=_NextPart_000_000C_01C30745.BEEEBA40"
X-Priority: 3
X-MSMail-Priority: Normal
X-Mailer: Microsoft Outlook Express 5.00.2314.1300
X-MimeOLE: Produced By Microsoft MimeOLE V5.00.2314.1300

This is a multi-part message in MIME format.

------=_NextPart_000_000C_01C30745.BEEEBA40
Content-Type: text/plain;
        charset="Windows-1252"
Content-Transfer-Encoding: quoted-printable

      April 20, 2003=20
      Greetings for a Happy Easter=20


      A LETTER FROM WSEAS=20

      ( I N V I T A T I O N )=20



      *please, forward this letter to people with similar interests
      *make links in your web sites to WSEAS Conferences: www.wseas.org
      *download books and CDs from our site FREE (see below)=20

            WSEAS Multiconferences in Mathematics (Sept.2003, Malta)
            and WSEAS Multiconference in Biology, Economy, =
Music-Acoustic, Automation and Informatics (Dec.2003, Tenerife, Canary =
Islands, Spain)=20
-----------------------------------------------------------------------
            Invitation for papers and special session. 4th WSEAS =
Multiconference in Applied Mathematics, Malta, September 1-3, 2003=20
              a.. 4th WSEAS International Conference on APPLIED =
MATHEMATICS (SYMPOSIA on: Linear Algebra and Applications, Numerical =
Analysis and Applications, Differential Equations and Applications, =
Probabilities, Statistics, Operational Research, Optimization, =
Algorithms, Discrete Mathematics, Systems, Communications, Control, =
Computers, Education)=20

              The multiconference is the 4th in the successfull history =
of the conference that was held in Athens, Greece (2000), Cairns, =
Australia (2001), Miedyzydroje, Poland (2002).=20
              As in 2002 in the conf. in Poland, all the accepted papers =
will be published in WSEAS TRANSACTIONS ON MATHEMATICS.=20


            Tenerife, Canary Islands, Spain, December 19-21, 2003=20
              a.. 4th WSEAS International Conference on MATHEMATICS AND =
COMPUTERS IN BIOLOGY AND CHEMISTRY (MCBC'03) with special emphasis on: =
BIOENGINEERING, MOLECULAR BIOLOGY, MATHEMATICAL BIOLOGY, BIOCHEMISTRY, =
BIOPHYSICS, COMPUTER BIOLOGY, BIOLOGICAL DYNAMICAL SYSTEMS,=20
              a.. 4th WSEAS International Conference on MATHEMATICS AND =
COMPUTERS IN BUSINESS AND ECONOMICS (MCBC'04) (theoretical, =
mathematical, computational, statistical, experimental methods for =
ECONOMICS, BUSINESS and MANAGEMENT science and applications)=20
              a.. 7th WSEAS Int.Conf. on 4th WSEAS International =
Conference on AUTOMATION & INFORMATION (ICAI'03)=20
              a.. 4th WSEAS International Conference on ACOUSTICS, =
MUSIC, SPEECH and LANGUAGE PROCESSING (ICAMSL 2003) (former Acoustics =
and Music: Theory and Applications).=20

            http://www.wseas.org =20
```

```
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----------------------------------------------------------------------
            For WSEAS CSCC Multiconference in Corfu Island, there is not =
any registration fee for extra pages and extra papers. So, we cordially =
encourage you to send more than one papers in this multiconference!=20
            Deadline: May 10 =
http://www.wseas.org/wseas/conferences/2003/corfu/index.html =20


            ALL the papers of NNA'03-FSFS'03-EC'03 (Athens, Greece) WILL =
BE PUBLISHED IN WSEAS TRANSACTIONS=20
----------------------------------------------------------------------
            Deadline: May 10 =
http://www.wseas.org/wseas/conferences/2003/athina/index.html=20
            Extra Pages free for all.=20
            After the conference, all the accepted papers will be =
published in a Special Issue of WSEAS TRANSACTIONS ON SYSTEMS that will =
be sent to you.=20

            ALSO: All authors of the conference will also receive a =
complimentary Book from WSEAS Press. =20


            DOWNLOAD FREE BOOKS AND CDs=20
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            Authors that will submit a paper in some WSEAS congress =
http://www.wseas.org/wseas/announcement.htm from April 1 until May 10, =
2003 will be able to download FREE as ZIP files all=20
            the Proceedings=20
            and=20
            the Books of WSEAS edited in 1999.=20
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            This password will also be sent to WSEAS Members.=20

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subject REMOVE or UNSUBSCRIBE. If you use different email account, =
include the email account(s) that you want to unsubscribe in the Body of =
your message. =20


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Content-Transfer-Encoding: quoted-printable

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      </BIG><BR><BR><BR></CENTER>*please, forward this letter to people =
with=20
      similar interests<BR>*make links in your web sites to WSEAS =
Conferences:=20
      www.wseas.org<BR>*download books and CDs from our site <B>FREE</B> =
(see=20
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Mathematics=20
            (Sept.2003, Malta)<BR>and WSEAS Multiconference in Biology, =
```

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Economy,=20
            Music-Acoustic, Automation and Informatics (Dec.2003, =
Tenerife,=20
            Canary Islands, Spain) </B>
            <HR>
            <FONT color=3D#000000>Invitation for papers and special =
session. <A=20
            href=3D"http://www.wseas.org" target=3D_blank><B>4th WSEAS=20
            Multiconference in Applied Mathematics, Malta, September =
1-3,=20
            2003</B>=20
            <UL>
              <LI>4th WSEAS International Conference on <A=20
              href=3D"http://www.wseas.org"><U>APPLIED MATHEMATICS</U>=20
              (<U>SYMPOSIA on:</U> Linear Algebra and Applications, =
Numerical=20
              Analysis and Applications, Differential Equations and=20
              Applications, Probabilities, Statistics, Operational =
Research,=20
              Optimization, Algorithms, Discrete Mathematics, Systems,=20
              Communications, Control, Computers, Education) =
</A><BR><BR>The=20
              multiconference is the 4th in the successfull history of =
the=20
              conference that was held in Athens, Greece (2000), Cairns, =

              Australia (2001), Miedyzydroje, Poland (2002). <BR>As in =
2002 in=20
              the conf. in Poland, <B><U>all</U> </B>the accepted papers =
will be=20
              published in <A=20
              =
href=3D"http://www.wseas.org/wseas/journals/mathematics/index.html">WSEAS=
=20
              TRANSACTIONS ON MATHEMATICS.</A> =
</LI></UL><BR><BR><B>Tenerife,=20
            Canary Islands, Spain, December 19-21, 2003</B>=20
            <UL>
              <LI>4th WSEAS International Conference on <A=20
              href=3D"http://www.wseas.org"><U>MATHEMATICS AND COMPUTERS =
IN=20
              BIOLOGY AND CHEMISTRY (MCBC'03) </U></A>with special =
emphasis on:=20
              BIOENGINEERING, MOLECULAR BIOLOGY, MATHEMATICAL BIOLOGY,=20
              BIOCHEMISTRY, BIOPHYSICS, COMPUTER BIOLOGY, BIOLOGICAL =
DYNAMICAL=20
              SYSTEMS, </LI></UL>
            <UL>
              <LI><A href="http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archiv
e/3D&amp;quot;http://www.wseas.org&amp;quot;">4th WSEAS =
International=20
              Conference on <U>MATHEMATICS AND COMPUTERS IN BUSINESS AND =

              ECONOMICS (MCBC'04)</U></A> (theoretical, mathematical,=20
              computational, statistical, experimental methods for =
ECONOMICS,=20
              BUSINESS and MANAGEMENT science and applications) =
</LI></UL>
            <UL>
              <LI>7th WSEAS Int.Conf. on <A =
href=3D"http://www.wseas.org"><U>4th=20
              WSEAS International Conference on AUTOMATION &amp;amp; =
INFORMATION=20
              (ICAI'03) </U></A></LI></UL>
            <UL>
              <LI>4th WSEAS International Conference on <A=20
              href=3D"http://www.wseas.org"><U>ACOUSTICS, MUSIC, SPEECH =
and=20
              LANGUAGE PROCESSING (ICAMSL 2003)</U></A> (former =
Acoustics and=20
              Music: Theory and Applications). </LI></UL><BR><A=20
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            <BIG>FREE</BIG></B>=20
            <HR>
            <FONT color=3D#000000>For WSEAS CSCC Multiconference in =
Corfu Island,=20
            there is not any registration fee for extra pages and extra =
papers.=20
            So, we cordially encourage you to send more than one papers =
in this=20
            multiconference! <BR>Deadline: May 10 <A=20
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NNA'03-FSFS'03-EC'03=20
            (Athens, Greece) WILL BE PUBLISHED IN WSEAS TRANSACTIONS</B> =

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html</A>=20
            <BR><BIG>Extra Pages free for all. <BR></BIG><B>After the=20
            conference, all the accepted papers will be published in a =
Special=20
            Issue of WSEAS TRANSACTIONS ON SYSTEMS that will be sent to =
you.=20
            <BR><BR>ALSO: All authors of the conference will also =
receive a=20
            complimentary Book from WSEAS Press. </B></B><FONT=20
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        <TBODY>
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            color=3D#000000><FONT color=3D#ff0000><B>DOWNLOAD FREE BOOKS =
AND CDs</B>=20

            <HR>
            <FONT color=3D#000000>Authors that will submit a paper in =
some WSEAS=20
            congress <A =
href=3D"http://www.wseas.org/wseas/announcement.htm"=20
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target=3D_blank>http://www.wseas.org/wseas/announcement.htm</A>=20
            <B>from April 1 until May 10, 2003 </B>will be able to =
download=20
            <B>FREE</B> as ZIP files <B>all</B> <BR><A=20
            href=3D"http://www.wseas.org/wseas/History.htm" =
target=3D_blank>the=20
            Proceedings</A> <BR>and <BR><A=20
            href=3D"http://www.wseas.org/wseas/New_Books.htm" =
target=3D_blank>the=20
            Books</A> of WSEAS edited in 1999. <BR>Authors will receive =
by Email=20
            a password. <BR>This password will also be sent to WSEAS =
Members.=20
            =
<BR><BR></A></FONT></FONT></FONT></FONT></TD></TR></TBODY></TABLE><BR><BR=
></CENTER>To=20
      unsubscribe, send an email to remove_for_ever@wseas.org with =
subject=20
      REMOVE or UNSUBSCRIBE. If you use different email account, include =
the=20
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email account(s) that you want to unsubscribe in the Body of your =
message.=20
</TD></TR></TBODY></TABLE></BODY></HTML>

------=_NextPart_000_000C_01C30745.BEEEBA40--

## 8. Low cost quality conference calls 3390

From: "Sabrina Baretta" <L.Mitchel@k2.t.u-tokyo.ac.jp>
Date: Thu, 24 Apr 2003 19:56:00 -1900
To: <L.Mitchel@k2.t.u-tokyo.ac.jp>
Message-ID: <000073d42104$000025de$00006197@mickey.grontmij.net>
Rendered body type: text/html

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/3D"http://www.kokiya.com/mortgage/e-commerce.html">

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From: "E-Business Update" <P.Newton@discern.de>
Date: Mon, 28 Apr 2003 06:01:15 -1900
To: <P.Newton@discern.de>
Message-ID: <000057e035ca$000052f5$00004b0e@mail.cbn.it>
Rendered body type: text/html

click here
<http://www.kokiya.com//mortgage/rm.html>to be removed from future mailings.

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D"http://www.kokiya.com/mortgage/conferencing.html">

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/3D"http://www.kokiya.com/mortgage/conferencing.html">

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Sterlite Industries (India) Limited, Moledina Road, Pune, India

## 10. Quality conferencing only 15 cents per min. 19678

From: "E-Business Update" <P.Newton@discern.de>
Date: Mon, 28 Apr 2003 06:07:43 -1900
To: <P.Newton@discern.de>
Message-ID: <000057e035ca$000052f5$00004b0e@mail.cbn.it>
Rendered body type: text/html

click here
<http://www.kokiya.com//mortgage/rm.html>to be removed from future mailings.

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D"http://www.kokiya.com/mortgage/conferencing.html">

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most companies charge. No set-up fees or contracts.

Stream Call Anywhere Over The Web For
Only $.05 cents Per Minute.

Click Here For More Info <http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive
/3D"http://www.kokiya.com/mortgage/conferencing.html">

# May 2003

Original source file: ss.0305
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/ss.0305

## 1. [ss] Spring 2003 issue of Packet Status Register (PSR) now available

From: Stan Horzepa <stanzepa@earthlink.net>
Date: Mon, 05 May 2003 20:00:28 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-131524-2003.05.05-20.01.12--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The Spring 2003 issue of Packet Status Register (PSR), TAPR's quarterly
newsletter is now available at the TAPR web site (www.tapr.org).

This issue of PSR has the following contents:

802.11b Used in Ham's Shuttle Recovery Efforts by Doug Kilgore, KD5OUG

A New Tactical Reporting Protocol by Scott Miller, N1VG

Announcing N2YGK's Linux aprsdigi Version 2.4.3            3 by Alan
Crosswell, N2YGK

APRS IP Mobile in a Non-Dynamic Wireless Environment or 802.11 APRS by
Darryl Smith, VK2TDS

Portable Tactical Digital Communications Using Off-the-Shelf Consumer
Components by Ed Carp, N7EKG

President's Corner: Dayton, Directors and the DCC by John Ackermann, N8UR

Real Networking: Is It the Key to Keeping & Reviving Packet? by Ron Sauer,
K9RKI

Revitalizing "Plain" Packet by Jim Wagner, KA7EHK

TAPR and ARRL 22nd Annual Digital Communications Conference

TAPR Membership by Darryl Smith, VK2TDS

TAPR Order Form

WA8WDQ Replaces K0PFX on TAPR Board

Welcome to Jeannie, The House That Listens by Don Marquardt, K9SOA

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 2. Your confirmation is needed (ok 6751)

From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Sun, 11 May 2003 11:28:44 -0500
To: lyris.ss@tapr.org
Message-ID: <LYR6751-132371-2003.05.11-11.28.44--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Your email address 'lyris.ss@tapr.org' has been submitted to be
unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be
unsubscribed.

To confirm that you do want to unsubscribe, reply to this message so that
the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to
unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the
mailing list.

---

```
Return-Path: <contact_us_only_via_web_.www.wseas.org@wseas.org>
Received: from ux.snd.edu.gr ([194.219.139.5]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Sun, 11 May 2003 11:28:30 -0500
Received: from explore (explore.wseas.org [194.219.139.7])
        by ux.snd.edu.gr (8.11.3/8.11.3/SuSE Linux 8.11.1-0.5) with SMTP id h45FMSL18081
        for <a10@ux.snd.edu.gr>; Mon, 5 May 2003 18:22:28 +0300
Message-ID: <002e01c3131b$5a718660$078bdbc2@wseas.org>
From: "Percles Stavrou" <contact_us_only_via_web_.www.wseas.org@wseas.org>
To: ss-request
Subject:
Date: Mon, 5 May 2003 18:28:40 +0300
MIME-Version: 1.0
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        boundary="----=_NextPart_000_0023_01C31334.268E4130"
X-Priority: 3
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X-MimeOLE: Produced By Microsoft MimeOLE V5.00.2314.1300

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <contact_us_only_via_web_.www.wseas.org@wseas.org>
Received: from ux.snd.edu.gr ([194.219.139.5]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Sun, 11 May 2003 11:28:30 -0500
Received: from explore (explore.wseas.org [194.219.139.7])
        by ux.snd.edu.gr (8.11.3/8.11.3/SuSE Linux 8.11.1-0.5) with SMTP id h45FMSL18081
        for <a10@ux.snd.edu.gr>; Mon, 5 May 2003 18:22:28 +0300
Message-ID: <002e01c3131b$5a718660$078bdbc2@wseas.org>
From: "Percles Stavrou" <contact_us_only_via_web_.www.wseas.org@wseas.org>
To: <Undisclosed-Recipient:;>
Subject: 5 DAYS UNTIL THE EXPIRATION OF THE DEADLINES FOR WSEAS CONFERENCES OF MAY AND JUNE, 2003 //
PUBLISH EXTRA PAPERS and EXTRA PAGES FREE  // PUBLISH YOUR PAPER IN WSEAS TRANSACTIONS  // DOWNLOAD FREE
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Date: Mon, 5 May 2003 18:28:40 +0300
MIME-Version: 1.0
Content-Type: multipart/alternative;
        boundary="----=_NextPart_000_0023_01C31334.268E4130"
X-Priority: 3
X-MSMail-Priority: Normal
X-Mailer: Microsoft Outlook Express 5.00.2314.1300
X-MimeOLE: Produced By Microsoft MimeOLE V5.00.2314.1300

This is a multi-part message in MIME format.

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Content-Type: text/plain;
        charset="Windows-1252"
Content-Transfer-Encoding: quoted-printable

5 DAYS UNTIL THE EXPIRATION OF THE DEADLINES FOR
WSEAS CONFERENCES IN ATHENS AND CORFU.
Please, read carefully all this message.

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www.wseas.org



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   extra papers. So, we cordially
   encourage you to send more than
   one papers in this multiconference!=20
   Deadline: May 10, 2003


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   Greece) WILL BE PUBLISHED IN
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   and=20
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</FONT>UNTIL THE=20
EXPIRATION OF THE DEADLINES FOR<BR>WSEAS CONFERENCES IN ATHENS AND=20
CORFU.<BR></STRONG>Please, read carefully all this message.</FONT></DIV>
<DIV> </DIV>
<DIV><FONT size=3D4><FONT face=3DArial>PLEASE, UPLOAD YOUR PAPER NOW, =
via our=20
server<BR><A =
href=3D"http://www.wseas.org">www.wseas.org</A></FONT></FONT></DIV>
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THINKS=20
!!!</FONT></STRONG></FONT></DIV>
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<DIV><FONT face=3DArial><STRONG><FONT color=3D#ff0000>PUBLISH EXTRA =
PAPERS and EXTRA=20
PAGES FREE</FONT><BR></STRONG>   For WSEAS CSCC=20
Multiconference<BR>   in Corfu Island, there is not=20
any<BR>   registration fee for extra pages and<BR>   =
extra=20
papers. So, we cordially<BR>   encourage you to send more=20
than<BR>   one papers in this multiconference! =
<BR>  =20
Deadline: May 10, 2003</FONT></DIV>
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<DIV><BR><FONT face=3DArial><STRONG><FONT color=3D#ff0000>PUBLISH YOUR =
PAPER IN=20
WSEAS TRANSACTIONS</FONT><BR></STRONG>   ALL the papers=20
of<BR>   NNA'03-FSFS'03-EC'03 (Athens,<BR>   Greece) =
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2003<BR>   Extra=20
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Pages free for all. </FONT></DIV>
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BOOKS AND=20
CDs</FONT><BR></STRONG>   Authors that will submit a paper=20
in<BR>   some conference from April 1 until<BR>   =
May 10,=20
2003 will be able to<BR>   download FREE as ZIP files all=20
<BR>   the Proceedings <BR>   and <BR>   =
the Books=20
of WSEAS edited in<BR>   1999. <BR>   Authors will =
receive=20
by Email a<BR>   password. <BR>   This password will =
also be=20
sent to<BR>   WSEAS Members. </FONT></DIV>
<DIV> </DIV>
<DIV><FONT face=3DArial>   Deadline: May 10, =
2003<BR>   Extra=20
Pages free for all. </FONT></DIV>
<DIV> </DIV>
<DIV><BR><FONT color=3D#ff0000 face=3DArial>Do you want to unsubscribe: =
send a=20
message to <A=20
href=3D"mailto:remove_for_ever@wseas.org">remove_for_ever@wseas.org</A><B=
R>with=20
subject REMOVE</FONT></DIV></BODY></HTML>

------=_NextPart_000_0023_01C31334.268E4130--
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## 3. How The Government Can Guarantee Your Investment 9375

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From: "J.P. Financing" <Jeff.W@pop01.odn.ne.jp>
Date: Sun, 11 May 2003 14:24:54 -1900
To: <Jeff.W@pop01.odn.ne.jp>
Message-ID: <000014442dd4$00003336$0000054a@rmx1.cubecom.it>
Rendered body type: text/html
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Government Guarantees Security In Your Investment

Click Here For The Best Kept Secret In America <http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spe
ctrum-sig/mail_archive/3D"http://www.kokiya.com/mortgage/investment=>

The average return one makes is 15%-50% GUARANTEED by the Goverment, and this is on the low end. Our clients are making an incredible 30 to 50 times their money on the high end. The banks have been doing this for over 100 years. Our company has developed a program that allows you to capitalize on these proven techniques and strategies for the first time ever.

For free information on "INSIDER SECRETS TO INVESTING IN GOVERNMENT SECURED TAX CERTIFICATES."

CLICK HERE. <http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/3D"http://ww
w.kokiya.com/mortgage/investme=>

Take Control of Your Financial Future!

To be removed, click here. <http://www.kokiya.com/mortgage/rm.html>

## 4. [ss] Last Reminder: Hamvention Digital Bash!

```
From: "John R. Ackermann   N8UR" <jra@febo.com>
Date: Tue, 13 May 2003 10:15:19 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-132605-2003.05.13-10.11.36--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain
```

Just a reminder that the annual TAPR Digital BASH will be held Friday
evening at Hamvention.  Our keynote speaker will be Gerald Youngblood,
AC5OG, who will describe -- and demonstrate -- his HF software defined
radio, the SDR-1000.  I have been playing with the SDR-1000 myself, and it
is a real step forward for ham SDR experimentation.  If you're at
Hamvention, you'll want to hear Gerald and see the radio in action.

Tickets are $25 and will be available at the TAPR booth up until about 3:45
Friday afternoon, when we have to call in the final count.  Directions to
the banquet hall will also be available at the booth.

And, remember that TAPR will have a bigger and better presence at
Hamvention this year.  Our new booth spaces are 607, 608, and 615, just a
little bit down and over from our old spot.

See you there!

73,
John N8UR

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 5. Save Money on Conference Calls 21392

From: "Telcom center" <lowestrate@sony.co.jp>
Date: Wed, 14 May 2003 10:05:04 -1900
To: <lowestrate@sony.co.jp>
Message-ID: <00001b446361$00001337$00002883@mail.1ab-server.de>
Rendered body type: text/html

click here
<http://www.kokiya.com/mortgage/rm.html>to be removed from future mailings.

Conference Calls

Only 15 Cents Per Min. <http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/3
D"http://www.kokiya.com/mortgage/conferencing2.html">

(Long Distance Included)

We offer an extremely easy to use conferencing service that only costs a fraction of what
most companies charge.

No Set-up Fees

No Contracts or Monthly Fees

Also Broadcast Your Conference Call Over
The Internet - Only 8 Cents Per Minute
Great For International Participants.

Click Here For More Info <http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive
/3D"http://www.kokiya.com/mortgage/conferencing2.html">

## 6. [ss] Help for WAP with dirvers for Linux

From: "elsy@elsy.it" <elsy@elsy.it>
Date: Mon, 19 May 2003 10:47:49 +0200
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-133316-2003.05.19-04.32.15--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

GoodMorning,

we are looking for info about 11/22 Mbps.
Wireless Access Point with drivers for LINUX.

thank for help.

Best regards.


ELSY
Renato Bertello
tel. 333 2700071
www.elsy.it/lan



---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 7. [ss] Help for WAP with dirvers for Linux

From: "elsy@elsy.it" <elsy@elsy.it>
Date: Mon, 19 May 2003 11:21:57 +0200
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-133319-2003.05.19-05.06.26--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

GoodMorning,

sorry for mistake,
but we are looking for info about 11/22 Mbps.
Wireless 11 Mbps. PCI card with drivers for LINUX.

thank for help.

Best regards.

ELSY
Renato Bertello
tel. 333 2700071
www.elsy.it/lan

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 8. [ss] Call for Papers

From: Stan Horzepa <stanzepa@earthlink.net>
Date: Tue, 20 May 2003 20:45:42 -0400
To: "TAPR Spread Spectrum Special Interest Group" <ss@lists.tapr.org>
Message-ID: <LYR6751-133576-2003.05.20-20.53.24--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Technical papers are solicited for presentation at the 22nd Annual ARRL and
TAPR Digital Communications Conference to be held September 19-21, 2003 in
Hartford, Connecticut, and publication in the Conference Proceedings. Annual
conference proceedings are published by the ARRL. Presentation at the
conference is not required for publication. Submission of papers are due by
August 5th, 2003 and should be submitted to:

Maty Weinberg, ARRL
225 Main Street
Newington, CT 06111

or via the Internet to
maty@arrl.org

---
You are currently subscribed to ss as: lyris.ss@tapr.org
To unsubscribe send a blank email to leave-ss-6751T@lists.tapr.org

## 9. Your confirmation is needed (ok 6751)

From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Fri, 23 May 2003 01:21:58 -0500
To: lyris.ss@tapr.org
Message-ID: <LYR6751-133981-2003.05.23-01.21.58--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Your email address 'lyris.ss@tapr.org' has been submitted to be
unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be
unsubscribed.

To confirm that you do want to unsubscribe, reply to this message so that
the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to
unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the
mailing list.

---

Return-Path: <Bill.T@tp.com.pe>
Received: from mail.sooner.com.tw ([61.220.72.37]) by lists.tapr.org with SMTP (Lyris Server version
3.0); Fri, 23 May 2003 01:21:42 -0500
Received: from mail.npma.ws (unknown [61.174.130.161])
        by mail.sooner.com.tw (Postfix) with ESMTP
        id 9F8182B1AE; Fri, 23 May 2003 12:07:32 +0800 (CST)
Message-ID: <000004887c57$00006084$00000c9f@mail2.zrz.tu-berlin.de>
To: ss-request
From: "County News" <Bill.T@tp.com.pe>

```
Subject:
Date: Thu, 22 May 2003 21:15:12 -1900
MIME-Version: 1.0
Content-Type: text/html;
        charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <Bill.T@tp.com.pe>
Received: from mail.sooner.com.tw ([61.220.72.37]) by lists.tapr.org with SMTP (Lyris Server version
3.0); Fri, 23 May 2003 01:21:42 -0500
Received: from mail.npma.ws (unknown [61.174.130.161])
        by mail.sooner.com.tw (Postfix) with ESMTP
        id 9F8182B1AE; Fri, 23 May 2003 12:07:32 +0800 (CST)
Message-ID: <000004887c57$00006084$00000c9f@mail2.zrz.tu-berlin.de>
To: <Bill.T@tp.com.pe>
From: "County News" <Bill.T@tp.com.pe>
Subject: Government Guarantees Financial Success                    10776
Date: Thu, 22 May 2003 21:15:12 -1900
MIME-Version: 1.0
Content-Type: text/html;
        charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable

<html>
<head>
</head>
<body>
<center>
<table border=3D"1" width=3D"600" cel=
lpadding=3D"3" cellspacing=3D"0">
 <tr>
  <td bgcolor=3D"#FEFEF5" align=3D=
"center" valign=3D"top" width=3D"600">
   <br>
   <table border=3D"0" cell=
padding=3D"3" cellpsacing=3D"0">
    <tr>
     <td bgcolor=3D"#3D117B" wid=
th=3D"594" align=3D"center" valign=3D"middle">
       <font face=3D"arial"=
 size=3D"4" color=3D"#FFFF00">SECURE YOUR INVESTMENTS THROUGH THE GOVERNME=
NT</font>
         </td>
        </tr>
   </table>
   <br>  <font face=3D"times" size=3D=
"5" color=3D"#ff0000">Earn 15%-50%  Interest...GUARANTEED!</font>
   <br><=
br>
   <a href="http://ftp.tapr.org/tapr_history/SIG_Archives/spread-spectrum-sig/mail_archive/3D&amp;quot;http:
//www.kokiya.com/mortgage/investments.html&amp;quot;"><font f=
ace=3D"arial" size=3D"4">
   <b>Find Out How Banks Make Their Profits.</b>=
</font></a>
   <br><br>
   <font face=3D"times" size=3D"6" color=3D"#ff000=
0">
   Avoid Taking Risks In The Market</font>
   <br><br>
   <font face=3D=
"arial" size=3D"4" color=3D"#000000">
   <i>Learn to aquire properties for=
 pennies on The Dollar.</i></font>
   <br>
   <font face=3D"arial" size=3D=
"4" color=3D"#000000">
   <b></font>
   <br><a href=3D"http://www.kokiya.c=
om/mortgage/investments.html"><font face=3D"arial" size=3D"5">
   <b>Click=
 Here For Your FREE Video</b></font></a>
   <br><br><table border=3D"0" wi=
dth=3D"594" cellpadding=3D"3" cellpsacing=3D"0">
```

```
    <tr>
     <td bgcolor=
=3D"#3D117B" align=3D"center" valign=3D"middle">
       <font face=3D"aria=
l" size=3D"4" color=3D"#FFFF00">DISCOVER THE BEST KEPT SECRETS IN AMERICA<=
/font>
         </td>
        </tr>
   </table>
   <br>
  </td>
 </tr>
</table><tr>
  <td bgcolor=3D"#000000" align=3D"middle" valign=3D"middle" colspan=3D"4"=
>
<font face=3D"verdana" size=3D"1" color=3D"#000000"><a href=3D"http://www.=
kokiya.com/mortgage/rm.html"><font face=3D"verdana" size=3D"1" color=3D"#0=
000ff">click here</font>
</a> to be removed.
   </font>
  </td>
 </tr>
</center>
</body>
</html>
```

## 10. Your confirmation is needed (ok 6751)

```
From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Mon, 26 May 2003 18:04:01 -0500
To: lyris.ss@tapr.org
Message-ID: <LYR6751-134539-2003.05.26-18.04.01--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain
```

```
Your email address 'lyris.ss@tapr.org' has been submitted to be
unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be
unsubscribed.

To confirm that you do want to unsubscribe, reply to this message so that
the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to
unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the
mailing list.

---

Return-Path: <james@hello.com>
Received: from localhost.com ([218.71.105.218]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Mon, 26 May 2003 18:03:56 -0500
From: james@hello.com
Reply-To: james@hello.com
To: ss-request
Date: Tue, 27 May 2003 06:16:47 +0800
Subject:
X-Mailer: QuickSender 1.05
MIME-Version: 1.0
Content-Type: text/html; charset="us-ascii"
Content-Transfer-Encoding: quoted-printable

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <james@hello.com>
Received: from localhost.com ([218.71.105.218]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Mon, 26 May 2003 18:03:56 -0500
From: james@hello.com
Reply-To: james@hello.com
To: leave-ss-6751t@lists.tapr.org
Date: Tue, 27 May 2003 06:16:47 +0800
```

```
Subject: Italian-crafted Rolex - only $65 - $140!! Free SHIPPING   !  !
X-Mailer: QuickSender 1.05
MIME-Version: 1.0
Content-Type: text/html; charset="us-ascii"
Content-Transfer-Encoding: quoted-printable

=3CBODY bgColor=3D#ffffff=3E
=3CDIV=3E=3CFONT color=3D#ff0000 face=3DVerdana size=3D2=3EPlease note to send ALL REPLY
e-mail direct to our sales representative at=3A =3C=2FFONT=3E=3CA
href=3D=22mailto=3AQuestions=40QualityWatchWorld=2Ecom=22=3E=3CFONT face=3DVerdana
size=3D2=3EQuestions=40QualityWatchWorld=2Ecom=3C=2FFONT=3E=3C=2FA=3E=3C=2FDIV=3E
=3CDIV=3E =3B=3C=2FDIV=3E
=3CDIV=3E=3CFONT face=3DVerdana size=3D2=3EHi=2C =3B=3CBR=3EThank you for expressing interest in
ATGWS watches=2E=3C=2FFONT=3E=3C=2FDIV=3E
=3CDIV=3E=3CFONT face=3DVerdana size=3D2=3EWe would like to take this opportunity to offer
you our fine selection of Italian crafted Rolex Timepieces=2E =3B=3CBR=3EYou can
view our large selection of Rolexes =28including Breitling=2C Tag Heuer=2C Cartier
etc=29 at=3A=3C=2FFONT=3E=3C=2FDIV=3E
=3CDIV=3E=3CFONT face=3DVerdana size=3D2=3E=3CA
href=3D=22http=3A=2F=2Fwww=2Equalityswisstime=2Ecom=22=3Ewww=2Equalityswisstime=2Ecom=3C=2FA=3E=3C=2FFON
T=3E=3C=2FDIV=3E
=3CDIV=3E=3CFONT face=3DVerdana size=3D2=3EFor all orders placed from now till the end of
May=2C all shipping and handling charges will be free=2E =3B=3CBR=3EAs we are the
direct manufacturers=2C you are guaranteed of lowest prices and highest quality
each and every time you purchase from us=2E =3B=3CBR=3EYou may also be interested to
know that we have the following brands available in our wide selection as well=3A
=3C=2FFONT=3E=3C=2FDIV=3E
=3CDIV=3E =3B=3C=2FDIV=3E
=3CDIV=3E=3CFONT face=3DVerdana size=3D2=3E1=2E Leather band Daytona =28ladies and men's=29 =3CBR=3E2=2E

Blancpain=3CBR=3E3=2E Fortis=3CBR=3E4=2E Jaeger LeCoutre=3CBR=3E5=2E Longines=3CBR=3E6=2E Mont
Blanc=3CBR=3E7=2E Movado=3CBR=3E8=2E Oris=3CBR=3E9=2E Roger Dubuis=3CBR=3E10=2E Ulysse=3CBR=3E11=2E
Zenith=3CBR=3E12=2E Audemar Piguet=3CBR=3E13=2E Breitling=3CBR=3E14=2E Bvglari=3CBR=3E15=2E
Cartier=3CBR=3E16=2E Corum=3CBR=3E17=2E Dunhill=3CBR=3E18=2E Franck Muller=3CBR=3E19=2E Gerard
Perregaux=3CBR=3E20=2E IWC=3CBR=3E21=2E IWC=3CBR=3E22=2E Panerai=3CBR=3E23=2E Patek
Philippe=3CBR=3E24=2E Tag
Heuer=3CBR=3E25=2E Vacheron Constantin=3CBR=3E =3B=3CBR=3EIf you see anything that might
interest you=2C or if you have any questions=2C please don't hesitate to visit our
website at=3A=3C=2FFONT=3E=3C=2FDIV=3E
=3CDIV=3E=3CFONT face=3DVerdana size=3D2=3E=3CA
href=3D=22http=3A=2F=2Fwww=2Equalityswisstime=2Ecom=22=3Ewww=2Equalityswisstime=2Ecom=3C=2FA=3E=3C=2FFON
T=3E=3C=2FDIV=3E
=3CDIV=3E=3CFONT face=3DVerdana size=3D2=3EI certainly look forward to hearing from
you=2E=3C=2FFONT=3E=3C=2FDIV=3E
=3CDIV=3E =3B=3C=2FDIV=3E
=3CDIV=3E=3CFONT face=3DVerdana size=3D2=3EBest regards=2C=3C=2FFONT=3E=3C=2FDIV=3E
=3CDIV=3E =3B=3C=2FDIV=3E
=3CDIV=3E=3CFONT face=3DVerdana size=3D2=3ECal=3C=2FFONT=3E=3C=2FDIV=3E
=3CDIV=3E =3B=3C=2FDIV=3E
=3CDIV=3E=3CFONT size=3D2=3E=3CFONT face=3DVerdana=3EDivision Sales Manager=3CBR=3EATGWS
=3CBR=3E =3B
=3CBR=3EYou received this email because your have previous purchased from=2C or
inquired about our product line under ATGWS=2E If you do not want to receive
further mailings from ATGWS=2C unsubscribe by sending an email with the title
heading=3A DELETE in the subject line to =3C=2FFONT=3E=3CA
href=3D=22mailto=3AUnsubscribe=40QualityWatchWorld=2Ecom=22=3E=3CFONT
face=3DVerdana=3EUnsubscribe=40QualityWatchWorld=2Ecom=3C=2FFONT=3E=3C=2FA=3E=3CFONT face=3DVerdana=3E
=3C=2FFONT=3E=3C=2FFONT=3E=3C=2FDIV=3E
=3CDIV=3E =3B=3C=2FDIV=3E
=3CDIV=3E=3CFONT color=3D#ff0000 face=3DVerdana size=3D2=3EPlease note to send ALL REPLY
e-mail direct to our sales representative at=3A =3C=2FFONT=3E=3CA
href=3D=22mailto=3AQuestions=40QualityWatchWorld=2Ecom=22=3E=3CFONT face=3DVerdana
size=3D2=3EQuestions=40QualityWatchWorld=2Ecom=3C=2FFONT=3E=3C=2FA=3E=3C=2FDIV=3E
=3CDIV=3E =3B=3C=2FDIV=3E
=3CDIV=3E=3CFONT size=3D2=3E=3C=2FFONT=3E =3B=3C=2FDIV=3E=3C=2FBODY=3E
```

## 11. Your confirmation is needed (ok 6751)

```
From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Sat, 31 May 2003 01:45:44 -0500
To: lyris.ss@tapr.org
Message-ID: <LYR6751-135072-2003.05.31-01.45.44--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Your email address 'lyris.ss@tapr.org' has been submitted to be
unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be
unsubscribed.
```

```
To confirm that you do want to unsubscribe, reply to this message so that
the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to
unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the
mailing list.

---

Return-Path: <peri@worldses.org>
Received: from ux.snd.edu.gr ([194.219.139.5]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Sat, 31 May 2003 01:44:03 -0500
Received: from explore (explore.wseas.org [194.219.139.7])
        by ux.snd.edu.gr (8.11.3/8.11.3/SuSE Linux 8.11.1-0.5) with SMTP id h4PL8YC22864
        for <a101@ux.snd.edu.gr>; Mon, 26 May 2003 00:08:34 +0300
Message-ID: <000d01c32302$cbfeb540$078bdbc2@wseas.org>
Reply-To: "WSEAS (Sector of Conferences)" <peri@wseas.org>
From: "WSEAS (Sector of Conferences)" <peri@worldses.org>
To: ss-request
Subject:
Date: Mon, 26 May 2003 00:15:38 +0300
MIME-Version: 1.0
Content-Type: multipart/related;
        boundary="----=_NextPart_000_0009_01C3231B.EFA939C0";
        type="multipart/alternative"
X-Priority: 3
X-MSMail-Priority: Normal
X-Mailer: Microsoft Outlook Express 5.00.2314.1300
X-MimeOLE: Produced By Microsoft MimeOLE V5.00.2314.1300

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <peri@worldses.org>
Received: from ux.snd.edu.gr ([194.219.139.5]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Sat, 31 May 2003 01:44:03 -0500
Received: from explore (explore.wseas.org [194.219.139.7])
        by ux.snd.edu.gr (8.11.3/8.11.3/SuSE Linux 8.11.1-0.5) with SMTP id h4PL8YC22864
        for <a101@ux.snd.edu.gr>; Mon, 26 May 2003 00:08:34 +0300
Message-ID: <000d01c32302$cbfeb540$078bdbc2@wseas.org>
Reply-To: "WSEAS (Sector of Conferences)" <peri@wseas.org>
From: "WSEAS (Sector of Conferences)" <peri@worldses.org>
To: <Undisclosed-Recipient:;>
Subject: INVITATION,  MYKONOS ISLAND GREECE 2003, Multiconference, ISPRA, EHACS, AIKED, SEPADS, All the
accepted and registered papers will be published  in WSEAS TRANSACTIONS on COMPUTERS and WSEAS
TRANSACTIONS on COMMUNICATIONS
Date: Mon, 26 May 2003 00:15:38 +0300
MIME-Version: 1.0
Content-Type: multipart/related;
        boundary="----=_NextPart_000_0009_01C3231B.EFA939C0";
        type="multipart/alternative"
X-Priority: 3
X-MSMail-Priority: Normal
X-Mailer: Microsoft Outlook Express 5.00.2314.1300
X-MimeOLE: Produced By Microsoft MimeOLE V5.00.2314.1300

This is a multi-part message in MIME format.

------=_NextPart_000_0009_01C3231B.EFA939C0
Content-Type: multipart/alternative;
        boundary="----=_NextPart_001_000A_01C3231B.EFA939C0"


------=_NextPart_001_000A_01C3231B.EFA939C0
Content-Type: text/plain;
        charset="Windows-1252"
Content-Transfer-Encoding: quoted-printable

  =20

      INVITATION
```

```
      We invite you to join us for the next WSEAS Congress in  MYKONOS =
Island in August 2003. Submit your paper, or your session now. This =
Multi-Congress is composed by the following 4 Conferences

      =20

      =B7        ISPRA 2003 (WSEAS Int. Conf. on SIGNAL PROCESSING, =
ROBOTICS, AUTOMATION),=20

      =B7        EHACS 2003 (WSEAS Int. Conf. on ELECTRONICS, HARDWARE, =
WIRELESS & OPTICAL COMMUNICATIONS), Symposium on Microwaves, Antennas, =
Radar Systems,=20

      =B7        AIKED 2003 (WSEAS Int. Conf. on ARTIFICIAL =
INTELLIGENCE, KNOWLEDGE ENGINEERING AND DATA BASES),=20

      =B7        SEPADS 2003 (WSEAS Int. Conf. on SOFTWARE ENGINEERING, =
PARALLEL & DISTRIBUTED SYSTEMS)

      =20

      All the accepted and registered papers will be published in WSEAS =
TRANSACTIONS on COMPUTERS and WSEAS TRANSACTIONS on COMMUNICATIONS

      =20

      The Island of Mykonos is one of the most cosmopolitan places in =
the Mediterranean Sea and in summer the place is lovely.

      More Information: http://www.wseas.org

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      P.Stavrou

      WSEAS Conference Manager

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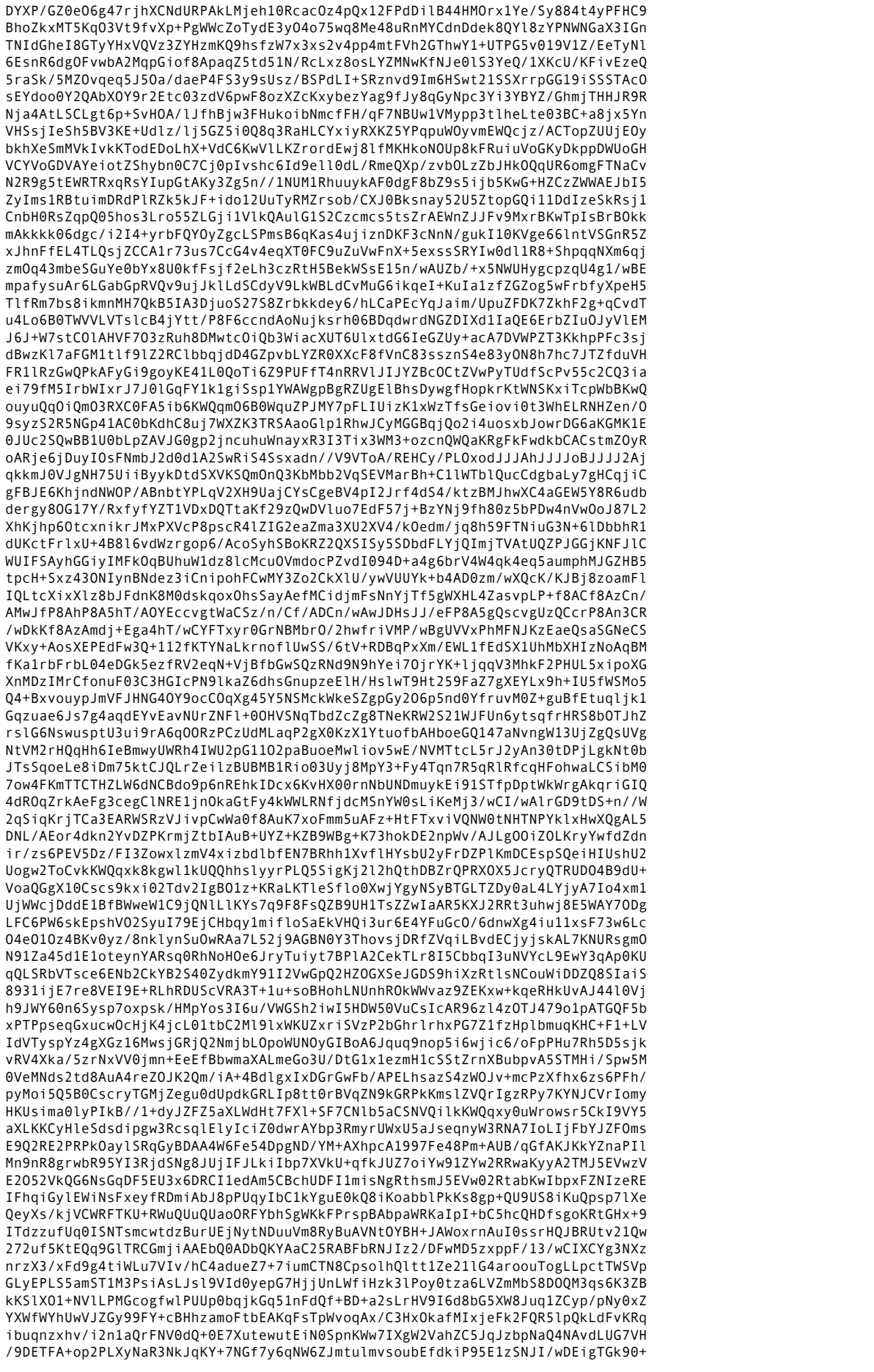

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------=_NextPart_000_0009_01C3231B.EFA939C0--

## 12. Your confirmation is needed (ok 6751)

From: Lyris <unsubscribe-confirm@lists.tapr.org>
Date: Sat, 31 May 2003 01:46:23 -0500
To: lyris.ss@tapr.org
Message-ID: <LYR6751-135076-2003.05.31-01.46.23--lyris.ss#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Your email address 'lyris.ss@tapr.org' has been submitted to be
unsubscribed from the 'ss' mailing list.

This unsubscribe command requires your confirmation that you want to be
unsubscribed.

To confirm that you do want to unsubscribe, reply to this message so that
the words "ok 6751" appear somewhere on the subject line.

Make sure that your reply message is addressed to
unsubscribe-confirm@lists.tapr.org

You will receive notification that your confirmation has been received, and
that you have been unsubscribed.

If you do not want to unsubscribe, do nothing.  You will be kept on the
mailing list.

---

Return-Path: <rodri2003conference@aol.com>
Received: from ux.snd.edu.gr ([194.219.139.5]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Sat, 31 May 2003 01:44:44 -0500
Received: from explore (explore.wseas.org [194.219.139.7])
        by ux.snd.edu.gr (8.11.3/8.11.3/SuSE Linux 8.11.1-0.5) with SMTP id h4PLHxC25286
        for <a101@ux.snd.edu.gr>; Mon, 26 May 2003 00:17:59 +0300
Message-ID: <002001c32304$1ce4e4b0$078bdbc2@wseas.org>
From: "J.T.Rodriguez" <rodri2003conference@aol.com>
To: ss-request
Subject:
Date: Mon, 26 May 2003 00:24:24 +0300
MIME-Version: 1.0
Content-Type: multipart/related;
        boundary="----=_NextPart_000_001A_01C3231D.29126140";
        type="multipart/alternative"
X-Priority: 3
X-MSMail-Priority: Normal
X-Mailer: Microsoft Outlook Express 5.00.2314.1300
X-MimeOLE: Produced By Microsoft MimeOLE V5.00.2314.1300

# Mail sent to leave-ss-6751t was converted to these commands:
unsubscribe ss lyris.ss@tapr.org confirm
end

# This is the text of the message that triggered the action:

Return-Path: <rodri2003conference@aol.com>

Received: from ux.snd.edu.gr ([194.219.139.5]) by lists.tapr.org with SMTP (Lyris Server version 3.0);
Sat, 31 May 2003 01:44:44 -0500
Received: from explore (explore.wseas.org [194.219.139.7])
        by ux.snd.edu.gr (8.11.3/8.11.3/SuSE Linux 8.11.1-0.5) with SMTP id h4PLHxC25286
        for <a101@ux.snd.edu.gr>; Mon, 26 May 2003 00:17:59 +0300
Message-ID: <002001c32304$1ce4e4b0$078bdbc2@wseas.org>
From: "J.T.Rodriguez" <rodri2003conference@aol.com>
To: <Undisclosed-Recipient:;>
Subject: INVITATION,  MYKONOS ISLAND, GREECE 2003, Multiconference, ISPRA, EHACS, AIKED, SEPADS, All the
 accepted and registered papers will be published  in WSEAS TRANSACTIONS on COMPUTERS and WSEAS
TRANSACTIONS on COMMUNICATIONS
Date: Mon, 26 May 2003 00:24:24 +0300
MIME-Version: 1.0
Content-Type: multipart/related;
        boundary="----=_NextPart_000_001A_01C3231D.29126140";
        type="multipart/alternative"
X-Priority: 3
X-MSMail-Priority: Normal
X-Mailer: Microsoft Outlook Express 5.00.2314.1300
X-MimeOLE: Produced By Microsoft MimeOLE V5.00.2314.1300

This is a multi-part message in MIME format.

------=_NextPart_000_001A_01C3231D.29126140
Content-Type: multipart/alternative;
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------=_NextPart_001_001B_01C3231D.29126140
Content-Type: text/plain;
        charset="Windows-1252"
Content-Transfer-Encoding: quoted-printable

   CALL for INVITED PAPERS=20

      and INVITED SESSIONS

      ------------------------------

      We invite you to join us for the next WSEAS Congress in  MYKONOS =
Island in August 2003. Submit your paper, or your session now. This =
Multi-Congress is composed by the following 4 Conferences

      =20

      =B7        ISPRA 2003 (WSEAS Int. Conf. on SIGNAL PROCESSING, =
ROBOTICS, AUTOMATION),=20

      =B7        EHACS 2003 (WSEAS Int. Conf. on ELECTRONICS, HARDWARE, =
WIRELESS & OPTICAL COMMUNICATIONS), Symposium on Microwaves, Antennas, =
Radar Systems,=20

      =B7        AIKED 2003 (WSEAS Int. Conf. on ARTIFICIAL =
INTELLIGENCE, KNOWLEDGE ENGINEERING AND DATA BASES),=20

      =B7        SEPADS 2003 (WSEAS Int. Conf. on SOFTWARE ENGINEERING, =
PARALLEL & DISTRIBUTED SYSTEMS)

      =20

      All the accepted and registered papers will be published in WSEAS =
TRANSACTIONS on COMPUTERS and WSEAS TRANSACTIONS on COMMUNICATIONS

      =20

      The Island of Mykonos is one of the most cosmopolitan places in =
the Mediterranean Sea and in summer the place is lovely.

      More Information: http://www.wseas.org

      =20

      P.Stavrou

      WSEAS Conference Manager

```
      if you want to unsubscribe send a message to: =
remove_for_ever@wseas.org

      =20
    =20
      =20
    =20
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        charset="Windows-1252"
Content-Transfer-Encoding: quoted-printable

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      invite you to join us for the next WSEAS Congress in<SPAN=20
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      </FONT>in August 2003. Submit your paper, or your session now. =
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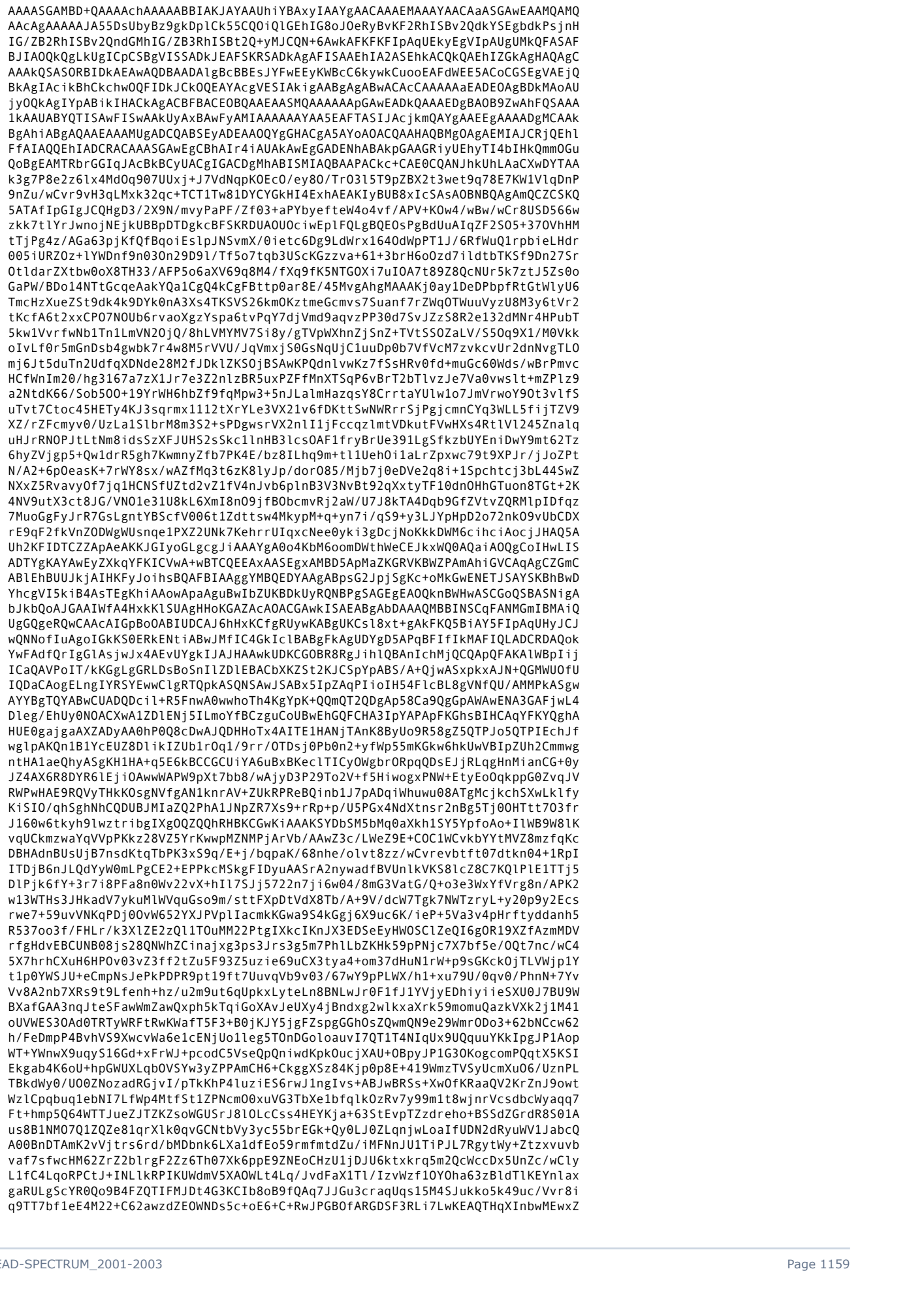
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